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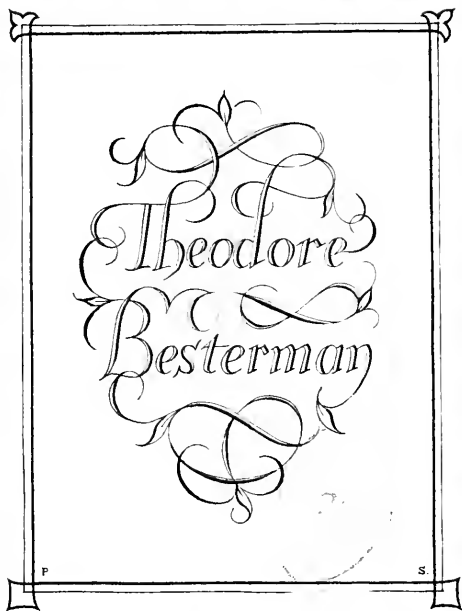
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The





Sohn Edington 1756

THE
ELEMENTS
OF
ARCHITECTURE.

Collected by
HENRY WOTTON Knight,
from the best Authors
and Exam-
ples.

LONDON
Printed by JOHN BILL.
M.DC.XXIV.

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THE PREFACE.

I Shall not neede (like
the most part of
Writers) to cele-
brate the Subject
which I deliuer. In that point I
am at ease. For Architecture,
can want no commendation, where
there are Noble Men, or Noble
mindes ; I will therefore spend
this Preface , rather about those,
from whom I haue gathered my
knowledge ; For I am but a ga-
therer and disposer of other mens
stufte, at my best value.

THE PREFACE.

*Our principall Master is Vir-
truuius and so I shall often call
him; who had this felicitie, that
he wrote when the Roman Em-
pire was neere the pitch; Or at
least, when Augustus (who fa-
uoured his endeaours) had some
meaning (if he were not mista-
ken) to bound the Monarchie:
This I say was his good happe;
For in growing and enlarging
times, Artes are commonly
drowned in Action: But on the
other side, it was in truth an vn-
happinesse, to expresse himselfe
so ill, especially writing (as he did)
in a season of the ablest Pennes;
And his obscuritie had this
strange fortune; That though he
were*

Tacit. lib. i.
Annal.

THE PREFACE.

were best practised, and best followed by his owne Countrymen; yet after the reuiuing and repolishing of good Literature, (which the combustions and tumults of the middle Age had vnciuillized) he was best, or at least, first vnderstood by strangers: For of the Italians that tooke him in hand, Those that were Gramarians seeme to haue wanted Mathematicall knowledge; and the Mathematicians perhaps wanted Gramer: till both were sufficiently conioyned, in Leon-Batista Alberti the Florentine, whom I repute the first learned Architect, beyond the Alpes; But hee studied more indeede to
make

THE PREFACE.

*make himselfe an Author, then
to illustrate his Master. There-
fore among his Commenters, I
must (for my priuate conceite)
yeild the chiefe praise vnto the
French, in Philander; and to the
high Germans, in Gualterus Ri-
uius: who, besides his notes, hath
likewise published the most elabo-
rate translation, that I thinke is
extant in any vulgar speech of
the world: though not without be-
wayling, now and then, some de-
fect of Artificiall tearmes in his
owne; as I must likewise; For
if the Saxon, (our mother
tongue) did complaine; as iustly
(I doubt) in this point may the
Daughter: Languages, for the
most*

THE PREFACE.

most part in tearmes of Art and Erudition, relaying their originall pouertie, and rather growing rich and abundant, in complementall phrases and such froth. Touching diuers moderne men that haue written out of meere practise, I shall giue them their due, upon occasion.

And now, after this short Censure of others, I would faine satisfie an Obiection or two, which seeme to lie somewhat heauily vpon my selfe; It will be said that I handle an Art, no way suteable either to my employments, or to my fortune. And so I shall stand charged, both with Intrusion, and with Impertinency.

THE PREFACE.

To the First I answere, that though by the ever acknowledged goodnesse of my most deare and gracious SOVERAIGNE; and by his long indulgent toleration of my defects. I haue borne abroad some part of his ciuill seruice; yet when I came home, and was againe resolved into mine owne simplicitie, I found it fitter for my Pen (at least in this first publique aduventure) to deale with these plaine compilements, and tractable Materials; then with the Laberynthes and Mysteries of Courts and States; And lesse presumption for mee, who haue long contemplated a famous Republique, to write now of Architecture;

THE PREFACE.

ecture; then it was anciently for

*Hippodamus the Milesian, to
write of Republicques, who was
himselfe but an Architect.

* Aristot. 2.
lib. Politi.
cap. 6.

To the Second, I must shrink
up my shoulders, as I haue learn'd
abroad, and confesse indeed; that
my fortune is very vnable to ex-
emplifie, and actuate my Specu-
lations in this Art, which yet in
trueth, made mee the rather euen
from my very disabilitie, take en-
couragement to hope; that my pre-
sent Labour, would find the more
fauour with others, since it was un-
dertaken for no mans sake, lesse
then mine owne. And with that
cōfidence, I fel into these thoughts;
Of which, there were two wayes to

THE PREFACE.

*be deliuered, The one Historical,
by description of the principall
workes, performed already in
good part, by Giorgio Vassari in
the lines of Architects : The
other Logically, by casting the
rules and cautions of this Art, in-
to some comfortable Methode:
whereof I haue made choice; not
onely as the shortest and most Ele-
mentall; but indeed as the soun-
dest. For though in practicall
knowledges, euery complete ex-
ample, may beare the credite of a
rule; yet peraduēture rules should
precead, that we may by them, be
made fit to iudge of examples:
Therefore to the purpose; for I
will preface no longer.*



OF
THE ELEMENTS
OF
ARCHITECTURE.

The I. part.

IN *Architecture* as in all other *Operative Arts*, the *end* must direct the *Operation*.

The *end* is to build well.

Well building hath three Conditions.

Commoditie, Firmeries, and Delight.

A common diuision among the *Delicurers* of this *Art*, though I know not
A how,

how, some what misplaced by *Vitruvius* himselfe *lib. 1. cap. 3.* whom I shall be willinger to follow, as a Master of *Proportion*, then of *Method*.

Now, For the attayning of these *Inventions*, wee may consider the whole *Subject*, vnder two generall Heads.

The Seate, and the *Work*.

Therefore first touching *Scituation*.

The *Precepts* thereunto belonging, doe either concerne the *Totall Posture*, (as I may tearm it) or the *Placing* of the *Parts*: wherof the first sort, howsoever vsually set downe by *Architects* as a piece of their *Profession*: yet are in truth borrowed, from other *Learnings*: there being betweene *Arts* and *Sciences*, as well as betweene *Men*, a kinde of good fellowship, and communication of their *Principles*.

For you shall finde some of them, to be meere *Physicall*, touching the quality

litie and temper of the *Aire*: which being a perpetuall ambient, and ingredient, and the defects thereof, incorrigible in single *Habitations* (which I most intend) doth in those respects, require the more exquisite caution; That it be not too *grosse*, nor too *penetrative*; Not subiect to any foggy noysomnesse, from *Fenns* or *Marshes* neere adioyning; nor too *Mineral* exhalations, from the Soile it selfe. Not vndigested, for want of *Sunne*; Not vnexercised, for want of *Winde*: which were to liue (as it were) in a *Lake*, or standing *Poole* of *Aire*, as *Alberti* the *Florentin Architect*, doth ingeniously compare it.

Some doe rather seeme a little *Astrological*, as when they warne vs from Places of malign *Influence*: where *Earthquakes*, *Contagions*, *Prodigious Births*, or the like, are frequent without any euident cause: whereof the Consideration is peraduenture not altogether

vaine: Some are plainly *Oeconomical*;
 As that the *Seate* be well watered, and
 well fewelled, That it bee not of too
 steepe and incommodious *Acceſſe* to
 the trouble both of friends and *familie*.
 That it lie not too farre, from some
 nauigable *Riuer* or *Arme* of the *Sea*, for
 more ease of prouision and such other
Domestique notes.

Some againe may bee said to bee
Optical: Such I meane as concerne the
Properties of a well chosen *Proſpect*:
 which I will call the *Royaltie* of *Sight*.
 For as there is a *Lordſhip* (as it were)
 of the *Feete*, wherein the Master doth
 much ioy when he walketh about the
Line of his owne *Poſſeſſions*: So there
 is a *Lordſhip* likewise of the *Eye* which
 being a raunging, and Imperious, and
 (I might ſay) an *uſurping Sence*, can
 indure no narrow *circumſcription*, but
 muſt be fedde, both with extent and
 varietie. Yet on the other ſide, I finde
 vaſte and indefinite viewes which
 drowne

drowne all apprehension of the vt-
termost *Obiects*, condemned, by good
Authors, as if thereby some part of the
pleasure (whereof we speake) did pe-
rish. Lastly, I remember a priuate
Caution, which I know not well how
to sort, vnlesse I should call it *Political*.
By no meanes, to build too neere a
great *Neighbour*; which were in truth
to bee as vnfortunately seated on the
earth, as *Mercurie* is in the Heauens, for
the most part, euer in *combustion*, or ob-
scuritie, vnder brighter beames then his
owne.

From these seuerall *Knowledges* as I
haue said, and perhaps from some o-
ther doe *Architects* deriue their Do-
ctrine about election of *Seats*: wherein
I haue not beene so seuer, as a great
Scholer of our time, who precisely re-
strayneth a perfect *Scituation*, at least for
the maine point of health, *Ad locum*
contra quem Sol radios suos fundit cum sub
Ariete oritur, That is, in a word hee

* Ioannes
Heurnius
Instit: Me-
dicin: lib. 7.
cap. 2.

would haue the first *salutation* of the *Spring*. But such *Notes* as these, where-
 focuer we finde them in graue or slight
 Authors , are to my conceite rather
wishes then *Precepts* ; and in that quali-
 tie, I will passe them ouer. Yet I must
 withall say that in the *seating* of our
 selues (which as a kinde of *Marriage*
 to a *Place*) *Builders* should bee as cir-
 cumspect as *Wooers* ; lest when all is
 done that *Dooome* befall vs , which our
 Master doth lay vpon *Mitylene* : A
Towne in truth (saith hee) *finely built,*
but foolishly planted. And so much
 touching that, which I termed the *To-
 tall Posture.*

*Opidum
 quidem
 edificatum
 eleganter
 sed impru-
 denter
 positum.*

The next in Order is the placing of
 the *Parts* ; About which (to leaue as
 little as I may in my present labour,
 vnto *Fancie*, which is wilde and irregu-
 lar) I will propound a Rule of mine
 owne Collection, vpon which I fell in
 this maner. I had noted, that all *Arte*
 was then in truest perfection, when it
 might

might bee reduced to some naturall Principle. For what are the most iudicious *Artisans* but the *Mimiques* of *Nature*? This led me to contemplate the Fabrique of our owne Bodies, wherein the *High Architect* of the world, had displaid such skill, as did stupifie, all humane reason. There I found the *Hart* as the fountaine of Life placed about the Middle, for the more equall communication of the vitall spirits. The *Eyes* seated aloft, that they might describe the greater Circle within their view. The *Armes* proiected on each side, for ease of reaching. Briefly (not to loose our selues in this sweet speculation) it plainly appeareth, as a Maxime drawne from the Diuine light; That the *Place* of euery part, is to be determined by the *Vse*.

So then, from naturall *structure*, to proceed to Artificiall; and in the rudest things, to preserve some *Image* of the excellentest. Let all the principall chambers

chambers of *Delight*, All *Studies* and *Libraries*, betowards the *East*: For the Morning is a friend to the *Muses*. All Offices that require heat, as *Kitchens*, *Stillatories*, *Stoues*, roomes for *Baking*, *Brewing*, *Washing*, or the like, would be *Meridionall*. All that need a coole and fresh temper, as *Cellers*, *Pantries*, *Butteries*, *Granaries*, to the *North*. To the same fidelikewise, all that are appointed for gentle Motion, as *Galleries*, especially in warme Climes, or that otherwise require a steadie and vnuariable light, as *Pinacothecia* (saith *Vitruuius*) by which he intendeth, (if I may guesse at his Greeke, as wee must doe often euen at his Latine) certaine *Repositories* for workes of rarity in Picture or other Arts, by the Italians called *Studioli*, which at any other Quarter, where the course of the *Sunne* doth diuersifie the *Shadows*, would loose much of their grace. And by this Rule hauing alwayes regarde to the

Use,

Use, any other Part may bee fitly accommodated.

I must here not omit to note that the Ancient *Grecians*, and the *Romanes* by their example in their buildings abroad, where the *Seat* was free, did almost Religiously scituate the *Front* of their houses, towards the South; perhaps that the Masters *Eye*, when hee came home, might not be dazeled; or that being illustrated, by the *Sunne*, it might yeeld the more gracefull *Aspect*; or some such reason. But from this, the Moderne *Italians* doe varie; whereof I shall speake more in another place. Let thus much suffice at the present for the *Position* of the severall *Members*, wherein must bee had as our Author doth often insinuate; and especially *lib. 6. cap. 10.* a singular regard, to the nature of the *Region*: Euery Nation, being tyed aboue al Rules whatsoeuer, to a discretion; of providing against their owne *Inconueniences*: And there-

fore a good *Parler* in *Ægypt* would perchance make a good *Celler* in *England*.

There now followeth the second Branch of the generall *Section* touching the *Worke*.

In the *Worke*, I will first confider the principall parts, and afterwards the Accessorie, or *Ornaments*; And in the Principall, first the Preparation of the *Materials*, and then the Disposition, which is the *Forme*.

Now, concerning the *Materiall* part; Although surely, it cannot disgrace an *Architect*, which doth so well become a Philosopher, to looke into the properties of *Stone* and *Wood*: as that Firre Trees, Cypresses, Cedars, and such other *Aereall* aspiring *Plants*, being by a kinde of naturall rigour (which in a Man I would call pride) inflexible downewards, are thereby fittest for *Posts* or *Pillars* or such vpright vsc; that

on the other side, Oake, and the like true hartie Timber being strong in all positions, may bee better trusted in crosse and trauerse worke, for *Summers*, or guirding and binding *beames*, as they tearme them. And so likewise to obserue of *Stone*, that some, are better within, and other to beare *Weather*: Nay, to descend lower euen to examine *Sand* and *Lyme*, and *Clay* (of all which things *Vitruuius* hath discoursed, without any daintines, & the most of new Writers) I say though the *Speculative* part of such knowledge be *liberall*: yet to redeeme this Profession, and my present paynes, from indignitie; I must heere remember that to choose and sort the *materials*, for euery part of the *Fabrique*, is a Dutie more proper to a second *Superintendent*, ouer all the *Vnder Artisans* called (as I take it) by our Author, *Officinators lib 6. cap. iij.* and in that Place expressly distinguished, from the *Architect*, whose glory doth

more consist, in the Designement and *Idea* of the whole *Worke*, and his truest ambition should be to make the *Forme*, which is the nobler Part (as it were) triumph ouer the *Matter*: whereof I cannot but mention by the way, a forreigne Paterne, namely the Church of *Santa Giustina* in *Padoua*: In truth a sound piece of good Art, where the *Materials* being but ordinarie stone; without any garnishment of sculpture, doe yet rauish the Beholder, (and hee knowes not how) by a secret *Harmony* in the *Proportions*. And this indeede is that end, at which in some degree, we should ayme euen in the priuatest workes: whereunto though I make haste, yet let me first collect, a few of the least triuiall cautions, belonging to the *Materiall Provision*.

The *Leon Batista Alberti*, is so curious, as to wish all the *Timber*, cut out of the same *Forrest*, and all the *Stone*, out of the same *Quarrie*.

Philibert

Philibert del'Orme the French Architect goes yet somewhat further, and would haue the *Lyme* made of the very same *Stone*, which wee intend to imploy in the *Workes*; as belike imagining that they will sympathize and ioyn the better, by a kinde of *Originall* kindred. But such conceits as these seeme somewhat too fine among this *Rubbage*, though I doe not produce them in sport. For surely the like agreements of nature, may haue oftentimes a discreet application to Art. Alwayes it must be confessed, that to make *Lyme* without any great choyce of refuse stuffe, as we commonly do, is an *English* error, of no small moment in our Buildings. Whereas the *Italians* at this day, and much more the *Ancients* did burne their firmest *stone*, and euen fragments of *Marble* where it was copious, which in time became almost *Marble* againe, or at least of indissoluble duritie, as appeareth in the standing *Thea-*

ters.

ters. I must here not omit, while I am speaking of this part, a certain forme of *Bricke* described by *Daniele Barbaro Patriarch of Aquileia*, in the largest Edition of his Commentary vpon *Vitruuius*. The Figure triangular, euery side a foot long, and some inch and a halfe thicke, which he doth commend vnto vs for many good conditions: As that they are more commodious in the management, of lesse expence, of fayrer show, adding much beautie & strength to the *Murall Angles*, where they fall gracefully into an indented *Worke*: so as I should wonder that wee haue not taken them into vse, being propounded by a man of good authoritie in this knowledge; but that all Nations doe start at *Novelties*, and are indeede married to their owne *Moulds*. Into this place might aptly fall a doubt, which some haue wel moued; whether the ancient *Italians* did burne their *Bricke* or no; which a passage or two in *Vitruuius* hath

hath left ambiguous. Surely where the *Naturall* heat is strong enough, to supply the *Artificiall*, it were but a curious folly to multiply both *Labour* and *Expence*. And it is besides very probable, that those *Materials* with a kindly and temperate heate would prooue fayrer, smother, and lesse distorted, then with a violent: Onely, they suffer two exceptions. First, that they are likely by such a gentle drying to be the more *ponderous*: An important circumstance to the maine of the *Worke* in the compilement. The next, is of no lesse moment; That they will want a certaine sucking and soaking *Thirstinesse*, or a fiery appetite to drink in the *Lime*, which must knit the *Fabrique*. But this question is to bee confined to the *South*, where there is more *Sunne* and patience. I will therefore not hinder my course, with this incident scruple, but close that part which I haue now in hand, about the

the *Materials*, with this principall caution: That sufficient *Stuffe* and *Mony* be readie before wee beginne: For when we build now a Piece, and then another, by *Fits*, the *Worke* dries and sinkes vnequally, whereby the *Walles*, grow full of *Chinques*, and *Crenices*; wherefore such a pawling humour, is well reprooued by *Palladio lib. 1. cap. 1.* and by all other. And so hauing gleaned these few remembrances, touching the preparation of the *Matter*, I may now proceede to the *Disposition* thereof, which must forme the *Worke*. In the *Forme*, as I did in the *Seate*, I will first consider the generall *Figuration*, and then the seuerall *Members*.

Figures are either *simple* or *Mixed*. The simple bee either, *Circular* or *Angular*. And of Circular, either *Compleat*, or *Deficient*, as *Ovals*: with which kindes I will bee contented, though the *Distribution* might bee more curious.

Now

Now the exact *Circle* is in truth a Figure, which for our purpose hath many fit and eminent properties ; as fitnesse, for Commodity and Receit, being the most capable ; fitnesse for strength and duration, being the most vnited in his parts ; Fitnesse for beautie and delight, as imitating the celestiall *Orbes*, and the vniuersall *Forme*. And it seemes, besides, to haue the approbation of *Nature*, when shee worketh by *Instinct*, which is her secret Schoole : For birds doe build their nests *Spherically*: But notwithstanding these Attributes, it is in truth a very vnprofitable Figure in priuate *Fabriques*, as being of allover the most chargeable, and much roome lost in the bending of the *Walles*, when it comes to bee diuided : besides an ill distribution of light, except from the *Center* of the *Roofe*. So as anciently it was not vsual, saue in their *Temples* and *Amphi-Theaters*, which needed no

Compartitions. The *Ovals* and other imperfect circular *Formes*, haue the same exceptions, and lesse benefite of capacity : So as there remaynes to bee considered in this generall suruey of *Figures*, the *Angular*, and the *Mixed* of both. Touching the *Angular*, it may perchance sound somewhat strangely, but it is a true obseruation, that this *Art* doth neither loue many *Angles* nor few. For first, the *Triangle* which hath the fewest sides and corners, is of all other the most condemned, as being indeed both incapable and infirme (wherof the reason shall be afterwards rendred) and likewise vnresoluable into any other regular *Forme* then it selfe, in the inward *Partitions*.

As for *Figures* of five, six, seuen, or more *Angles*; They are surely fitter for *Militar Architecture*, where the Bulworks may be layed out at the *Corners*, and the sides serue for *Curtaines*, then for ciuill yse; though I am not ignorant

rant of that famous Piece at *Caprarola*, belonging to the houſe of *Farnefe*, caſt by *Baroccio* into the forme of a *Pentagone*, with a *Circle* inſcribed, where the *Architeſt* did ingeniouſly wreſtle with diuers inconueniences in diſpoſing of the *Lights*, and in ſauing the vacuities. But as deſignes of ſuch nature doe more ayme at Rarity, then Commoditie: ſo for my part I had rather admire them, then commend them.

Theſe things conſidered, we are both by the Precepts and by the Praiſe of the beſt Builders, to reſolue vpon *Reſtangular Squares*, as a meane betweene too few, and too many Angles; and through the equall inclination of the ſides (which make the right Angle) ſtronger then the *Rhombe*, or *Loſenge*, or any other irregular *Square*. But whether the exact *Quadrat*, or the long *Square* be the better, I finde not well determined, though in mine

owne conceit I must preferre the latter; provided that the *Length* doe not exceede the *Latitude* about one third part, which would diminish the beauty of the *Aspect*, as shall appeare when I come to speake of *Symmetry* and *Proportion*.

Of mixed Figures, partly *Circular*, and partly *Angular*, I shall neede to say nothing; because hauing handled the Simple already, the mixed according to their composition, doe participate of the same respects. Onely against these, there is a proper *Obiection*, that they offend *Uniformity*: Whereof I am therefore opportunely induced to say somewhat, as farre as shal concerne the outward *Aspect*, which is now in Discourse.

In *Architecture*, there may seem to be two opposite affectations, *Uniformitie* and *Varietie*, which yet will very well suffer a good recõcilement, as we may see in the great *Paterne* of *Nature*, to
which

which I must often resort: For surely there can be no *Structure*, more vni-forme, then our *Bodies* in the whole *Figuration*: Each side, agreeing with the other, both in the number, in the qualitie, and in the measure of the Parts: And yet some are round, as the *Armes*, some flat, as the *Hands*, some prominent, and some more retired: So as vpon the Mater, wee see that *Diuersitie* doth not destroy *Vniformitie*, and that the Limmes of a noble *Fabrique*, may bee correspondent enough, though they be various; Prouided alwayes, that we doe not runne into certaine extravagant Inuentions, whereof I shall speake more largely, when I come to the parting and casting of the whole *Worke*. We ought likewise to auoyde Enormous heights of sixe or seuen *Stories*, as well as irregular *Formes*; and the contrary fault of low-distended *Fronts*, is as vnseemely: Or againe, when the *Face* of the Building, is nar-

row and the *Flank* deepe; To all which extreames, some particular Nations, or Townes, are subiect, whose Names may be ciuilly spared: And so much for the generall *Figuration*, or *Aspect* of the *Worke*.

Now concerning the Parts in Scueraltie. All the parts of euery *Fabrique*, may be comprised vnder five Heads, which Diuision I receiue from *Batista Alberti*, to doe him right. And they be these.

The *Foundation*.

The *Wall*s.

The *Appertions* or *Ouertures*.

The *Compartition*.

And the *Couer*.

About all which I purpose to gather the principall Cautions, and as I passe along, I will touch also the naturall Reasons of *Art*, that my discourse may be the lesse *Mechanicall*.

First then concerning the *Foundation*, which requireth the exactest care; For
if

if that happen to dance, it will marre all the mirth in the House: Therefore, that wee may found our Habitation firmly, we must first examine the *Bed of Earth* (as I may tearme it,) vpon which we will Build; and then the vnderfillings, or *Substruction*, as the Auncients did call it: For the former, we haue a generall precept in *Vitruuius* twice precisely repeated by him, as a point indeed of mayne consequence, first *lib. 1. cap. 5.* And againe more fitly *lib. 3. cap. 3.* in these words as *Philander* doth well correct the vulgar Copies.

Substructionis Foundationes fodiantur (saith he) *si queant inueniri ad solidum, & in solido.* By which words I conceiue him to commend vnto vs, not onely, a diligent, but euen a ieaious examination what the *Soile* will beare: aduising vs, not to rest vpon any appearing *Soliditie*, vlesse the whole *Mould* through which wee cut, haue likewise beene *solid*; But how deepe wee should goe
in

in this search, hee hath no where to my remembrance determined, as perhaps depending more vpon *Discretion*, then *Regularitie*, according to the weight of the *Worke*; yet *Andrea Palladio* hath fairely aduentured to reduce it into Rule: Allowing for that *Ca-uazione* (as he calleth it) a sixth part of the height of the whole *Fabrique*, vnles the Cellers be vnder ground, in which case hee would haue vs, (as it should seeme) to found somewhat lower.

*Vnderdig-
ing, or Hol-
lowing of
the Earth.*

Some *Italians* doe prescribe, that when they haue chosen the *Floore*, or Plot, and laid out the Limits of the *Worke*, wee should first of all Digge *Wels* and *Cesternes*, and other vnder-conducts and conueiances, for the *Suillage* of the House, whence may arise a double benefit, for both the Nature of the *Mould* or *Soile*; would thereby be safely searched, and moreouer those open vents, will serue to discharge such *Vapours*, as hauing otherwise no issue might

might peradventure shake the Building. This is enough for the naturall *Grounding*, which though it bee not a part of the solid *Fabrique*, yet here was the fittest place to handle it.

There followeth the *Substruction*, or Ground-worke of the whole *Edifice*, which must sustaine the *Walles*; and this is a kinde of *Artificiall* foundation, as the other was *Natural*. About which these are the chiefe Remembrances. First, that the bottome be precisely leuell, where the *Italians* therefore commonly lay a platforme of good *Bord*; Then that the lowest *Ledge* or *Row* be meere of *Stone*, and the broader the better, closely layd without *Morter*, which is a generall caution for all parts in Building, that are contiguous to *Bord* or *Timber*, because *Lime* and *Wood* are insociable, and if any where vnfit confiners, then most especially in the *Foundation*. Thirdly, that the bredth of the *Substruction* bee at least
D double

double to the *insistent Wall*, and more or lesse, as the weight of the *Fabrique* shall require; for as I must againe re-
 peate, *Discretion* may be freer then *Art*. Lastly, I finde in some a curious pre-
 cept, that the *Materials* below, be layd as they grew in the *Quarrie*, supposing them belike to haue most strength in their *Naturall* and *Habituell* Posture. For as *Philippe de l'Orme* obserueth, the breaking or yeelding of a stone in this part, but the bredth of the backe of a knife, will make a *Cleft* of more then half a foot in the *Fabrique* aloft, So important are *Fundamentall errors*. Among which notes I haue sayd nothing of *Pallification*, or *Pyling* of the *Ground-plot*, commanded by *Vitruuius*, when we build vpon a moist or marshy soile, because that were an error in the first choyce. And therefore all *Seats* that must vse such prouision below (as *Venice* for an eminent example) would perhaps vpon good enquiry, be found

to haue beene at first chosen by the counsell of *Necessity*.

Now the *Foundation* being searched, and the *Substruction* layd, wee must next speake of the *Wals*.

Wals are either entire and continuall, or intermitted; and the *Intermissions* be either *Pillars* or *Pylasters*; for here I had rather handle them, then as some others doe, among *Ornaments*.

The entire *Muring* is by Writers diuerly distinguished: By some, according to the quality of the *Materials*, as either Stone or Brick, &c. where, by the way, let me note, that to build *Wals* and greater Workes of *Flint*, whereof wee want not example in our *Iland*, & particularly in the *Prouince* of *Kent*, was (as I conceiue) meerly vnknown to the *Ancients*, who obseruing in that *Materiall*, a kinde of *Metalllicall* Nature, or at least a *Fusibility*, seeme to haue resolued it into nobler vse; an Art now vtterly lost, or perchance kept vp by a few *Chy-*

micks. Some againe doe not so much consider the quality, as the *Position* of the layd *Materials*: As when Bricke or squared stones are laid in their lengths with sides and heads together, or their points conjoyned like a *Networke* (for so *Vitruuius* doth call it *reticulatum opus*) of familiar vse (as it should seeme) in his Age, though afterwards growne out of request, euen perhaps for that subtill speculation which hee himselfe toucheth; because so layd, they are more apt in swagging down, to pierce with their points, then in the iacent Posture, and so to creuice the *Wall*: But to leaue such cares to the meaner Artificers, the more essentiall are these.

That the *Walles* bee most exactly perpendicular to the *Ground-worke*: for the 'right *Angle* (thereon depending) is the true cause of all *Stability*; both in Artificiall and Naturall positions; A man likewise standing firmest,

meest, when he stands vprightest. That the massiest and heauiest *Materials* bee the lowest, as fitter to beare, then to be borne. That the *Worke* as it riseth, diminish in *thicknesse* proportionally, for ease both of weight, and of expence. That certaine courses or *Ledges* of more strength then the rest, be interlayed like *Bones*, to sustaine the *Fabrique* from totall ruine, if the vnder parts should decay. Lastly, that the *Angles* bee firmly bound, which are the *Nerues* of the whole *Edifice*, and therefore are commonly fortified by the *Italians*, euen in their Bricke buildings, on each side of the corners, with well squared stone, yeelding both strength and grace And so much touching the entire or solid *Wall*.

The intermissions (as hath beene sayd) are either by *Pillars*, or *Pylasters*.

Pillars which we may likewise call *Columnes* (for the word among Artificers is almost naturallized) I could

distinguish into *Simple & Compounded*. But (to tread the beaten and plainest way) there are five *Orders* of Pillers, according to their dignity and perfection, thus marshalled:

The *Tuscan*.

The *Dorique*.

The *Ionique*.

The *Corinthian*.

And the *Compound Order*, or as some call it the *Roman*, others more generally the *Italian*.

In which five *Orders* I will first consider their *Communities*, and then their *Proprieties*.

Their *Communities* (as farre as I observe) are principally three. First, they are all *Round*; for though some conceiue *Columna Atticurgae* mentioned by *Vitruuius*, lib. 3. cap. 3. to haue beene a squared Pillar, yet wee must passe it ouer as irregular, neuer receiued among these *Orders*, no more then certaine other licentious inuentions, of *Wreathed*,

thed, and Vined, and Figured Columnnes, which our Author himselfe condemneth, being in his whole Booke a professed enemy to *Fancies*.

Secondly, they are all *Diminished*, or *Contracted* insensibly, more or lesse, according to the proportion of their heights, from one third part of the whole *Shaft* upwards, which *Philander* doth prescribe by his owne precise measuring of the Ancient remainders, as the most gracefull *Diminution*. And here I must take leaue to blame a practice growne (I know not how) in certaine places too familiar, of making *Pillars* swell in the middle, as if they were sicke of some *Tympany*, or *Drop-sie*, without any Authentique Paternie or Rule, to my knowledge, and vnseemely to the very iudgement of sight. True it is that in *Vitruuius*, lib. 3. cap. 2. wee finde these words, *De adiectione, que adijcitur in medijs Columnis, que apud Grecos Entasis appellatur, in extremo*

remo libro erit formatio eius; which passage, seemeth to haue giuen some countenance to this error. But of the promise there made, as of diuerse other elsewhere, our Master hath fayled vs, either by slip of uemery, or iniury of time, and so wee are left in the darke. Alwayes sure I am, that besides the authority of example which it wanteth, It is likewise contrary to the Originall and Naturall Type, in *Trees*, which at first was imitated in *Pillars*, as *Vitruuius* himselfe obserueth, *lib. 5. cap. 1.* For who euer saw any *Cypresse*, or *Pine*, (which are there alledged) small below and aboue, and tumerous in the middle, vnlesse it were some diseased Plant, as Nature (though otherwise the comliest *Mistresse*) hath now and then her deformities and *Irregularities*.

Thirdly, they haue all their *Vnder-settings*, or *Pedistals*, in height a third part of the whole *Columnne*, comprehending the *Base* and *Capitall*; and their
 vpper

upper Adjuncts, as *Architraue*, *Frize*, and *Cornice*, a fourth part of the sayd Pillar; which rule of singular vse and facility I find settled by *Iacobo Baroccio*, and hold him a more credible Author, as a man that most intended this piece, then any that vary from him in those *Dimensions*.

These are their most considerable *Communities* and agreements.

Their *Proprieties* or *Distinctions* will best appeare by some reasonable description of them all, together with their *Architraues*, *Frizes*, and *Cornices*, as they are vsually handled.

First therefore the *Tuscan* is a plain, massie, rurall Pillar, resembling some sturdy well-limmed Labourer, homely clad, in which kinde of comparisons *Vitruvius* himselfe seemeth to take pleasure, *lib. 4. cap. 1.* The length thereof shall be six *Diameters*, of the grossest of the Pillar below. Of all proportions, in truth, the most naturall; For our

Author tells vs, *lib. 3. cap. 1.* that the
 foote of a man is the fixt part of his
 bodie in ordinary measure, and Man
 himselfe, according to the saying of
Protagoras (which *Aristotle* doth some-
 where vouchsafe to celebrate) is τὸ πρῶτον
 ἀπαιτῶν συμμετρίαν μέτρον: as it were the Proto-
 type of all exact Symmetrie, which we
 haue had other occasion to touch be-
 fore: This *Columnne* I haue by good
 warrant called *Rurall*, *Vitru. cap. 2. lib. 3.*
 And therefore we need not consider
 his rank among the rest. The distance
 or *Intercolumniation* (which word Ar-
 tificers doe vsually borrow) may bee
 neere foure of his owne *Diameters*,
 because the *Materials* commonly layd
 ouer this Pillar, were rather of wood
 then stone; through the lightnesse
 whereof the *Architraue* could not suf-
 fer, though thinnely supported, nor
 the *Columnne* it selfe being so substan-
 tiall. The *Contraction* aloft shall be
 (according to the most receiued prac-
 tice)

rice) one fourth part of his thicknesse below. To conclude, (for I intend only as much as shall serue for a due Distinguishtment, and not to delineate every petty member) the *Tuscan* is of all the rudest Pillar, and his principall Character *Simplicity*.

The *Dorique Order* is the grauest that hath beene receiued into ciuill vse, preserving, in comparison of those that follow, a more *Masculine Aspect*, and little trimmer then the *Tuscan* that went before, saue a sober garnishment now and then of *Lions heads* in the *Cornice*, and of *Triglyphs* and *Metopes* alwayes in the *Frize*. Sometimes likewise, but rarely, chaneled, and a little slight sculpture about the *Hypotrachelion*, or *Necke* vnder the *Capitall*. The length, seuen *Diameters*. His ranke or degree, is the lowest by all *Congruity*, as being more massie then the other three, and consequently abler to support. The *Intercolumniation*, thrice as

much as his thicknesse below. The *Contraction* aloft, one fift of the same measure. To discerne him, will bee a peece rather of good *Heraldry*, then of *Architecture*: For he is best knowne by his place, when he is in company, and by the peculiar ornament of his *Frize* (before mentioned) when he is alone.

The *Ionique Order* doth represent a kinde of Feminine slenderesse, yet saith *Vitruuius*, not like a light Housewife, but in a decent dressing, hath much of the *Matrone*. The length eight *Diameters*. In degree as in substantialnesse, next aboue the *Dorique*, sustayning the third, and adorning the second Story. The *Intercolumniation* two of his owne *Diameters*. The *Contraction* one sixt part. Best knowne by his trimmings, for the bodie of this *Columnne* is perpetually chaneled, like a thicke plighted Gowne. The *Capitall* dressed on each side, not much vnlike womens Wires, in a spirall wrea-
thing

thing, which they call the *Ionian Voluta*. The *Cornice* indented. The *Frize* swelling like a pillow; And therefore by *Vitruvius*, not vnelegantly termed *Pulvinata*. These are his best Characters.

The *Corinthian*, is a *Columnne*, laciuously decked like a *Curtezane*, and therein much participating (as all Inventions doe) of the place where they were first borne: *Corinthe* hauing been without controuersie one of the wantonest Townes in the world. This Order is of nine *Diameters*. His degree, one Stage aboue the *Ionique*, and alwaies the highest of the simple Orders. The *Intercolumniation* two of his *Diameters*, and a fourth part more, which is of all other the comeliest distance. The *Contraction* one seuenth Part. In the *Cornice* both *Dentelli* and *Modigliani*. The *Frize*, adorned with all kinds of *Figures* and various *Compartments* at Pleasure. The *Capitall*, cut into the beau-

Our Artizans call them Teeth and Carozes.

beautifullest leafe, that Nature doth yeeld, which surely next the *Aconitum Pardalianches* (reiected perchance as an ominous Plant) is the *Acanthus* or *Branca Vrsina* though *Vitruuius* doe impute the choice thereof vnto Chance, and wee must be contented to belecue him : In short, As Plainenesse did Characterize the *Tuscan*, so must *Delicacie* and *Varietie* the *Corinthian* Pillar, besides the height of his Rank.

The last is the *Compounded Order*: His name being a brieft of his Nature. For this Pillar is nothing in effect, but a *Medlie*, or an *Amasse* of all the precedent *Ornaments*, making a new kinde, by stealth, and though the most richly tricked, yet the poorest in this, that he is a borrower of all his Beautie. His length, (that he may haue somewhat of his owne) shalbe of ten *Diameters*. His degree should, no doubt, bee the highest by reasons before yeelded.

But

But few *Palaces* Auncient or Moderne exceede the third of the *Ciuill Orders*. The *Intercolumniation*, but a *Diameter* and an halfe, or alwayes somewhat lesse then two. The *Contraction* of this Pillar must be one eight Part lesse aboue then belowe. To know him will be easie by the verie mixture of his *Ornaments*, and *Cloathing*.

And so much touching the five *Orders* of *Columnes*, which I will conclude with two or three, not impertinent *Cautions*:

First, that where more of these *Orders* then one, shalbe set in seuerall *Stories* or *Contignations*, there must bee an exquisite care, to place the *Columnes* precisely, one ouer another, that so, the *solid* may answere to the *solid*, and the *vacuities* to the *vacuities*, as well for *Beautie*, as strength of the *Fabrique*: And by this Caution the Consequence is plaine, that when wee speake of the *Intercolumniation* or *distance*, which is
due

due to each Order, we meane in a *Doricke*, *Ionically*, *Corinthian Porch*, or *Cloister*, or the like of one *Contignation*, and not in Storied buildings.

Secondly, let the *Columnes* aboue be a forth part lesse then those below, saith *Vitruuius*, *lib. 5. cap. 1.* A strange Precept, in my opinion, and so strange, that peraduenture it were more lutable, euen to his owne Principles, to make them rather a fourth Part greater, For *lib. 3. cap. 2.* where our Master handleth the *Contractions* of Pillars, wee haue an *Optique* Rule, that the higher they are, the lesse should be alwayes their diminution aloft, because the Eye it selfe, doth naturally contract all *Obiects* more or lesse, according to the *Distance*; which consideration, may, at first sight, seeme to haue beene forgotten in the Caution wee haue now giuen; but *Vitruuius* (the best Interpreter of himselfe) hath in the same place of his fift Booke, well acquitted his

his memorie by these words: *Columnae superiores quarta parte minores, quàm inferiores, sunt constituenda; propterea quòd, operi ferendo quæ sunt inferiora, firmiora esse debent*; preferring like a wise Mechanick, the naturall Reason, before the Mathematicall, and sensible conceits before abstracted. And yet lib. 4. cap. 4. he seemeth againe, to affect *Subtiltie*, allowing pillars the more they are channeled, to bee the more slender; because while our Eye (saith hee) doth as it were distinctly measure, the eminent and the hollowed Parts, the Totall Object appeareth the bigger, and so as much as those excauations, doe subtract, is supplied by a *Fallacie* of the Sight: But here mee thinks, our Master should likewise haue rather considered, the naturall Inconuenience; for though Pillars by chaneling, bee seemingly ingrossed to our Sight, yet they are truly weakened in themselves; and therefore ought perchance

in sound reason not to bee the more slender, but the more Corpulent, vnlesse apparances preponder truths; but *Contra Magistrum, non est disputandum.*

A third Caution shalbe that all the *projected* or *lutting* Parts (as they are termed) be very moderate, especially, the *Cornices* of the lower *Orders*, for whilest some thinke to giue them, a beautifull and royall Aspect, by their largenesse, they sometimes hinder both the Light within, (whereof I shall speake more in due place) and likewise detract much from the viewe of the *Front* without, as well appeareth in one of the principall Fabriques at *Venice*, namely the Palace, of the Duke *Grimani* on the *Canal Grande*, which by this magnificent errour, is somewhat disgraced: I neede now say no more concerning *Columnes* & their *Adiuncts*, about which Architects make such a noyse in their Bookes, as if the very termes of *Architraues*, and *Frizes*, and

and *Cornices*, and the like, were enough to graduate a Master of this *Art*, yet let me before I passe to other matter, preuent a familiar Obiection; It will perchance bee said, that all this Doctrine touching the five *Orders*, were fitter for the *Quarries* of *Asia* which yeelded 127 *Columnes* of 60 *Foot* high, to the *Ephesian Temple*, or for *Numidia* where *Marbles* abound; then for the *Spirits* of *England*, who must be contented with more ignoble *Materials*: To which I answere, that this neede not discourage vs: For I haue often at *Venice* viewed with much pleasure, an *Atrium Græcum* (we may translate it an *Anti porch*, after the Greeke manner) raised by *Andrea Palladio*, vpon eight *Columnes* of the *Compounded Order*; The *Bases* of Stone, without *Pedistals*, The *shafts* or *Bodies*, of meere Brick; three foote and an halfe thicke in the *Diameter* below, and consequently thirty five foote high, as

himselfe hath described them in his second Booke; Then which, mine Eye, hath neuer yet beheld any *Columnes*, more stately of Stone or Marble; For the Bricks, hauing first beene formed in a *Circular Mould*, and then cut before their burning into foure quarters or more, the sides afterwards ioyne so closely, and the points concenter so exactly, that the *Pillars* appeare one *entire Peece*; which short description, I could not omit, that thereby may appeare, how in truth wee want rather *Art* then stuffe, to satisfie our greatest *Fancies*.

After *Pillars*, the next in my distribution, are *Pylasters*, mentioned by *Vitruuius*, lib. 5. cap. 1. and scant any where else vnder the name of *Parastates*, as *Philander* conceiueth, which *Grammaticall* point (though perchance not very cleere) I am contented to examine no farther. Alwayes, what we meane by the thing it selfe, is plaine enough.

enough in our owne vulgar; Touching which, I will briefly collect the most considerable notes.

Pylasters, must not bee too tall and slender, least they resemble *Pillars*, nor too *Dwarfish* and grosse, least they imitate the *Piles* or *Peeres* of Bridges: Smoothnesse doth not so naturally become them, as a Rusticke *Superficies*, for they ayme more at *State & Srength*, then *Elegancie*. In priuate Buildings they ought not to be narrower, then one Third, nor broader then two parts of the whole Vacuity, betweene *Pylaster* and *Pylaster*; but to those that stand at the *Corners*, may be allowed a little more Latitude by discretion, for strength of the *Angles*: In *Theaters* and *Amphi-theaters*, and such weighty Workes, *Palladio* obserueth them, to haue beene as broad as the halfe, and now and then as the whole *Vacuitie*: Hee noteth likewise (and others consent with him) that their

true *Proportion*, should bee an *exact Square*; But for lessening of expence, and inlarging of roome, they are commonly narrower in *Flanke*, then in *Front*: Their principall *Grace* doth consist in halfe or whole *Pillars*, applied vnto them; in which case it is well noted by Authors, that the *Columnnes* may bee allowed somewhat aboue their ordinary length, because they leane vnto so good *Supporters*. And thus much shall suffice touching *Pilasters*, which is a cheape, & a strong, and a noble kinde of *Structure*.

Now because they are oftner, both for Beauty and Maiesty, found *Arched*, then otherwise; I am heere orderly led to speake of *Arches*, and vnder the same head of *Vaults*: for an *Arch* is nothing indeed but a contracted *Vault*, and a *Vault* is but a dilated *Arch*: Therefore to handle this Piece both compendiously, and fundamentally, I will resolute the whole businesse into a few *Theoremes*.

The-

Theoreme 1.

All solid *Materials* free from impediment, doe descend *perpendicularly* downewards, because *ponderosity* is a naturall inclination to the *Center* of the World, and *Nature* performeth her motions by the shortest lines.

Theoreme 2.

Brickes moulded in their ordinary *Rectangular* forme, if they shall be layd one by another in a leuell row, betwene any Supporters sustayning the two ends, then all the pieces between, will necessarily sinke, euen by their owne naturall *Gravity*, and much more if they suffer any depression by other waight aboue them, because their sides being *parallell*, they haue roome to descend *perpendicularly*, without impeachment, according to the former *Theoreme*; Therefore to make them stand, wee must either change their *Posture*, or their *Figure*, or both.

If

Theorme 3.

If Bricks moulded, or Stones squared *Cuneatim* (that is, *Wedge wise*, broader above then below) shall be layd in a *Row leuell*, with their ends supported, as in the precedent *Theoreme*, pointing all to one *Center*; then none of the pieces betweene can sinke till the *Supporters* giue way, because they want roome in that *Figuration*, to descend *perpendicularly*. But this is yet a weake piece of *Structure*, because the *Supporters* are subiect to much impulsion, especially if the line be long; for which reason this *Forme* is seldome vsed, but ouer *Windowes*, or narrowe *Doores*. Therefore to fortifie the *Work* as in this third *Theoreme* wee haue supposed the *Figure* of all the *Materials* different from those in the second: So likewise wee must now change the *Posture*, as will appeare in the *Theoreme* following.

Theoreme 4.

If the *Materials* figured as before
Wedge-

Wedge-wise, shall not be disposed levelly, but in forme of some *Arch*, or portion of a *Circle*, pointing all to the same *Center*: In this case neither the pieces of the sayd *Arch*, can sinke downwards, through want of roome to descend *perpendicularly: Nor the *Sup-* By the first
porters or *Butments* (as they are rear- Theor.
 med) of the sayd *Arch* can suffer so much violence, as in the precedent flat Posture, for the roundnesse will alwayes make the Incumbent waight, rather to rest vpon the *Supporters*, then to shoue them; whence may be drawn an euident *Corolary*, that the safest of all *Arches* is the *Semicircular*, and of all which is
Vaults the *Hemisphere*, though not ab- the sole
 solutely exempted from some naturall prerogative
 weakenesse, * as *Barnardino Baldi* Abbot of perpen-
 of *Gnaftalla*, in his *Commentary* vpon lines and
Aristotles *Mechaniques*, doth very well right An-
 propoue; where let me note by the way, gles.
 that when any thing is *Mathematically*
 demonstrated weake, it is much more

Mechanically weake: Errors euer occurring more easily in the management of *Grosse Materials*, then *Lineall Designs*.

Theoreme 5.

As Semicircular *Arches*, or Hemisphericall *Vaults*, being raised vpon the totall *Diameter*, bee of all other the roundest, and consequently the securest, by the precedent *Theoreme*: So those are the gracefullest, which keeping precisely the same height, shall yet bee distended, one fourteenth part longer then the sayd entire *Diameter*; which addition of distent will conferre much to their *Beauty*, and detract but little from their *Srength*.

This obseruation I finde in *Leon-Batista Alberti*; ' But the practice how to preserve the same height, and yet distend the Armes or ends of the *Arch*, is in *Albert Durers Geometry*, who taught the *Italians* many an excellent *Line*, of great vse in this *Art*.

Vpon

Vpon theſe five *Theoremes*, all the ſkill of *Arching* and *Vaulting* is grounded: As for thoſe *Arches*, which our Artizans call of the third and fourth point; And the *Tuſcan* writers *di terzo*, and *di quarto acuto*; becauſe they alwayes concurre in an acute *Angle*, and doe ſpring from diuiſion of the *Diameter*, into three, foure, or more parts at pleaſure; I ſay, ſuch as theſe, both for the naturall imbecility of the ſharpe *Angle* it ſelfe, and likewise for their very *Vncomelineſſe*, ought to bee exiled from judicious eyes, and left to their firſt inuentors, the *Gothes* or *Lumbards*, amongſt other *Reliques* of that barbarous *Age*.

Thus of my firſt *Partition* of the parts of euery *Fabrique*, into five Heads, hauing gone through the two former, & been incidently carried into this laſt doctrine touching *Arches* and *Vaults*. The next now in order are the *Apertions*; vnder which tearme I

doe comprehend *Doores*, *Windowes*, *Staire-cases*, *Chimnies*, or other *Conduits*: In short, all *Inlets* or *Outlets*; To which belong two generall *Cautions*.

First, That they bee as few in number, and as moderate in Dimension, as may possibly consist with other due respects: for in a word, all *Openings* are *Weaknings*.

Secondly, That they doe not approach too neere the *Angles* of the *Wals*; for it were indeed a most essentiall *Solecisme* to weaken that part, which must strengthen all the rest: A precept well recorded, but ill practised by the *Italians* themselues, particularly at *Venice*, where I haue obserued diuerse *Pergoli*, or *Meniana* (as *Vitruuius* seemeth to call them, which are certaine ballised out-standings to satisfie curiosity of sight) very dangerously set forth, vpon the very point it selfe, of the *Murall Angle*.

Now,

Now, Albeit I make haste, to the casting and comparting of the whole *Worke*, (being indeede the very Definitive Summe of this *Art*, to distribute usefully and gracefully a well chosen *Plot*) yet I will first vnder their severall Heads, collect briefly some of the choicest notes belonging to these particular *Overtures*.

Of *Doores* and *Windows*.

THESE *Inlets* of *Men* and of *Light*, I couple together, because I find their due Dimensions, brought vnder one Rule, by *Leone Alberti* (a learned Searcher) who from the Schoole of *Pythagoras* (where it was a fundamentall *Maxime*, that the *Images* of all things are latent in *Numbers*) doth determine the comeliest Proportion, betweene breadths and heights; Reducing *Symmetrie* to *Symphonie*, and the *harmonie* of *Sounde*, to a kinde of *harmonie* in *Sight*, after this manner: The two

principall *Consonances*, that most rauish the Eare, are by consent of all Nature, the *fift*, and the *Octaue*; whereof the first riseth radically, from the proportion, betweene *two* and *three*. The other from the double *Intervalle*, betweene *One* and *Two*, or betweene *Two* and *Foure* &c. Now if we shall transport these proportions, from Audible to visible *Obiects*; and apply them as they shall fall fittest (the nature of the Place considered) Namely in some *Windowes*, and *Doores*, the *Symmetrie* of *Two* to *Three*, in their Breadth and Length; In others the double as aforesaid; There will indubitably result from either, a gracefull and *harmonious* contentment, to the Eye; Which speculation though it may appeare vnto vulgar *Artizans*, perhaps too subtile, and too sublime, yet wee must remember, that *Vitruuius* himselfe doth determine many things in his profession; by *Musicall* grounds, and much commendeth

commendeth in an *Architect*, a *Philosophical Spirit*; that is, he would haue him (as I conceaue it) to be no superficiall, and floating *Artificer*; but a *Diuer* into *Causes*, and into the *Mysteries* of *Proportion*; Of the *Ornaments*, belonging both to *Doores* and *Windowes*, I shall speake in other place; But let mee heere adde one obseruation; That our *Master* (as appeareth by diuers passages, and particularly *lib. 6. cap. 9*) seemes to haue beene an extreame Louer of *Luminous Roomes*; And indeede I must confesse that a Franke Light, can milbecome noe *AEdifice* whatlocuer, *Temples* onely excepted; which were anciently darke, as they are likewise at this day in some *Proportion*. *Devotion more requiring collected then defused Spirits*. Yet on the other side we must take heede to make a House (though but for ciuill vse) all *Eyes*, like *Argus*; which in *Northerne Climes* would be too could, In *Southerne*, too hot: And therefore the matter

*Lumen est
diffusivum
sui & alieni;*

matter indeede importeth more then a merry comparifon. Befides, There is no part of *Structure* either more expencefull, then *Windowes*; or more ruinous; not onely for that vulgar reason, as being expofed to all violence of weather; but becaufe confifting of fo different and vnfociable pieces, as *Wood, Iron, Leade, and Glaffe*, and thofe fmall and weake, they are eafily fhaken; I muft likewife remember one thing, (though it be but a *Grammatical* note) touching *Doores*. Some were *Fores*, & Some were *Value*. Thofe (as the very word may feeme to import) did open *outwards*, Thefe *inwards*; And were commonly of two *Leaves* or *Panes*, (as we call them) thereby requiring indeed, a leffer *Circuit* in their *unfoulding*; And therefore much in vfe among *Italians* at this day; But I muft charge them with an Imperfection, for though they let in as well as the former, yet they keepe out worfe.

Of Staire-cases.

TO make a compleate *Staire-case*, is a curious peece of *Architecture*: The vulgar Cautions are these.

That it haue a very liberall *Light*, against all Casualtie of *Slippes*, and *Falles*.

That the space about the *Head*, bee large and *Airy*, which the *Italians* vse to call *Vn bel-sfogolo*, as it were good *Ventilation*, because a man doth spend much breath in mounting.

That the *Halfe-paces* bee well distributed, at competent distances, for reposing on the way.

That to auoyd *Encounters*, and besides to gratifie the beholder, the whole *Staire-case* haue no niggard *Latitude*, that is, for the principall *Ascent*, at least ten foot in *Royall Buildings*.

That the breadth of euery single *Step* or *Staire* bee neuer lesse then one

H foote,

foote, nor more then eighteen inches.

That they exceede by no meanes halfe a foot in their height or thicke-
nesse; for our *Legges* doe labour more
in *Elevation*, then in *Distention*: These
I say are familiar remembrances, to
which let me adde;

That the steps bee layd where they
joyne *Con vn tantino di scarpa*; we may
translate it somewhat *sloaping*, that so
the foot may in a sort both ascend and
descend together, which though ob-
serued by few, is a secret and delicate
deception of the paines in mounting.

Lastly, to reduce this doctrine to
some *Naturall*, or at least *Mathematicall*
ground, (our *Master*, as we see, *lib. 9.*
cap. 2.) borroweth those proportions,
that make the sides of a *Rectangular*
Triangle, which the Ancient Schoole
did expresse in lowest tearmes, by the
numbers of 3 . 4. and 5. That is, *Three*
for the *Perpendicular*, from the *Staire-*
head to the ground; *Foure* for the
Ground

Ground-line it selfe, or *Recession* from the wall; And *Five* for the whole *Inclination* or *sloopenesse* in the ascent, which proportion, saith he, will make *Temperatas graduum librationes*. Hitherto of *Staire-cases* which are direct: There are likewise *Spirall*, or *Cockle staires*, either *Circular*, or *Ouall*, and sometimes running about a *Pillar*, sometimes vacant, wherein *Palladio*, (A man in this point of singular felicity) was wont to diuide the *Diameter*, of the first sort into three parts, yeelding one to the *Pillar*, and two to the *Steps*; Of the second into foure, whereof he gaue two to the *Staires*, and two to the *Vacuitie*, which had all their light from above, And this in exact *Ouals*, is a Master-piece.

OF CHIMNIES.

IN the present businesse, *Italians* (who make very frugall fires, are perchance not the best Counsellors.) Therefore

from them we may better learne, both how to raise faire *Mantels* within the roomes, and how to disguise gracefully the shafts of *Chimnies* abroad (as they vse) in sundry formes (which I shall handle in the latter part of my labour) and the rest I will extract from *Philippe del Orme*: In this part of his *Worke* more diligent, then in any other, or, to doe him right, then any man else.

First, hee obserueth very soberly, that who in the disposition of any Building will consider the nature of the *Region*, and the *Windes* that ordinarily blow, from this, or that *Quarter*; might so cast the roomes, which shall most need fire; that hee should little feare the incommodity of *Smoake*, and therefore hee thinkes, that inconuenience, for the most part to proceede from some inconsiderate beginning. Or if the error lay not in the *Disposition* but in the *Structure* it selfe; then hee
makes

makes a *Logicall* enquiry, That either the *Winde* is too much let in aboue, at the mouth of the *Shafte*; or the *Smoke* stifeled below; If none of these, Then there is a repulsion of the *Fume*, by some higher *Hill* or *Fabrique*, that shall ouertoppe the *Chimney* and worke the former effect: If likewise not this, Then he concludes, that the Roome which is infested, must bee necessarily both little and close, so as the smoke cannot issue by a naturall *Principle*, wanting a succession and supply of new *Ayre*.

Now, In these cases he suggesteth diuers Artificiall remedies, of which I will allow one, a little *Description*, because it sauoureth of *Philosophie*, and was touched by *Vicruuius* himselfe, lib. 1 cap. 6. but by this man ingeniously applied to the present vse: Hee will haue vs prouide two hollow *brasse Balles* of reasonable capacitie, with little holes open in both, for reception of

Water, when the Aire shalbe first sucked out; One of these wee must place with the hole vpwards, vpon an yron Wire, that shall trauerse the *Chimney*, a little aboue the *Mantell*, at the ordinary height of the sharpest heate or flames, whereof the water within being rarified, and by rarification resolued into *Winde*, will breake out, and so force vp the smoke, which otherwise might linger in the *Tunnell*, by the way, and oftentimes reuert; With the other, (saith he) wee may supply the place of the former, when it is exhausted, or for a neede blow the *Fire* in the meane while; Which Inuention I haue interposed for some little intertainment of the Reader; I will conclude with a note from *Palladio*, who obserueth that the *Ancients* did warme their Roomes, with certaine secret *Pipes* that came through the Walles, transporting heate (as I conceiue it) to sundry parts of the House, from one
common

common *Furnace* ; I am ready to baptize them *Caliducts* , as well as they are rearmed *Venti-ducts* , and *Aqua-ducts* that conuey Winde and Water; which whether it were a custome or a delicacie, was surely both for thrift , and for vse, far beyond the German *Stoues*; And I should preferre it likewise before our owne fashion, if the very sight of a fire, did not adde to the Roome a kinde of *Reputation*, *as old *Homer* doth teach vs in a verse, sufficient to prooue that himselfe was not blinde, as some would laie to his charge.

*οὐδ' αὖτις ἴδοντες
ἐπὶ νεφεληγε
νέκας ἰδίδυ.*
Hom. Epig.

Touching *Conduets* for the *Suillage* and other necessities of the House, (which how base soeuer in vse, yet for health of the Inhabitants, are as considerable, and perhaps more then the rest) I finde in our Authors, this Counsell; That *Art* should imitate *Nature*, in those ignoble conueyances ; and separate them from Sight, (where there wants a running Water) into the
most

most remote, and lowest, and thickest part of the *Foundation* : with secret vents passing vp through the Wallles like a *Tunnell* to the wilde Aire aloft: which all Italian Artizans commend for the discharge of noysome vapours, though else-where to my knowledge little practised.

Thus hauing considered the precedent *Appertions*, or *Ouertures*, in seuerallie according to their particular *Requisites*, I am now come to the casting and *Contexture* of the whole *Worke*, comprehended vnder the rearme of *Compartition* : Into which (being the mainest piece) I cannot enter without a few generall Precautions, as I haue done in other Parts.

First therefore, Let no man that intendeth to build, settle his Fancie vpon a draught of the *Worke* in *paper*, how exactly soeuer measured, or neatly set off in *perspective*; And much lesse vpon a bare *Plant* thereof, as they call the

the *Schiographia* or Ground lines; without a Modell or Type of the whole Structure, and of euey parcell and Partition in *Pastboord* or *Wood*.

Next that the said Modell bee as plaine as may be, without colours or other beautifying, lest the pleasure of the Eye preoccupate the *Indgement*; which advise omitted by the *Italian Architects*, I finde in *Philippe de l'Orme*, and therefore (though *France* bee not the *Theater* of best Buildings) it did merit some mention of his name.

Lastly, the bigger that this Type be, it is still the better, not that I will perswade a man to such an enormity, as that Modell made by *Antonio Labaco*, of *Saint Peters Church* in *Rome*, containing 22. foot in length, 16. in breadth, and 13. in heighth; and costing 4184. crownes: The price in truth of a reasonable *Chappell*: Yet in a *Fabrique* of some 40. or 50. thousand pounds charge, I wish 30. pounds at least layd

our before hand in an exact Modell, for a little misery in the *Premises*, may easily breed some absurdity of greater charge, in the *Conclusion*.

Now, after these premonishments, I will come to the *Compartition* it selfe; By which, the Authors of this *Art* (as hath beene touched before) doe vnderstand, a gracefull and usefull distribution, of the whole Ground-plot both for roomes of Office, and of Reception or Entertainment, as farre as the Capacity thereof, and the nature of the *Countrie* will comport. Which circumstances in the present *Subiect*, are all of maine consideration, and might yeeld more discourse then an *Elementall Rap-sodie* will permit. Therefore (to anatomize briefly this Definition) the *Gracefulnesse* (whereof wee speake) will consist in double *Analogie*, or correspondence. First, between the *Parts* and the *Whole*, whereby a great *Fabrique* should haue great *Partitions*, great

Lights

Lights, great Entrances, great Pillars or
Pylasters; In summe, all the Members
great. The next betwene the *Partes*
themselves, not only, considering their
Breadths, and *Lengths*, as before, when
wee spake of *Doores* and *Windows*; but
here likewise enters a third respect of
Height, a point (I must confesse) hard-
ly reduceable to any generall precept.

True it is, that the *Ancients* did de-
termine the *Longitude* of all *Roomes*,
which were longer then broad, by
the double of their *Latitude*, *Vitruvius*
lib. 6. cap. 5. And the *Height* by the halfe
of the breadth and length summed to-
gether. But when the *Room* was pre-
cisely square, they made the *Height* half
as much more as the *Latitude*, which
Dimensions the *moderne Architects*
haue taken leaue to varie vpon discre-
tion: Sometimes squaring the *Lat-
itude*, and then making the *Diagonal* an
ouerthwart Line, from *Angle* to *Angle*
of the said *Square*, the measure of the

Height sometimes more, but seldome lower then the full breadth it selfe; which boldnesse of quitting the old *Proportions*, some attribute first to *Michael Angelo da Buonaroti*, perchance vpon the credite he had before gotten, in two other *Arts*.

The second point is *Vsefulnessse*, which will consist in a sufficient *Number* of *Roomes*, of all sorts, and in their apt *Coherence*, without *distractiō*, without *confusion*; so as the beholder may not onely call it, *Vna Fabrica ben raccolta*: as *Italians* vse to speake of well vnit-
ed *Workes*, but likewise that it may appeare *aiue* and *spiritous*, and fit for the welcome of cheerefull *Guests*; about which the principall difficultie will bee in contriuing the *Lights*, and *Staire-cases*; whereof I will touch a note or two: For the first, I obserue that the ancient *Architects* were at much ease. For both the *Greekes* and *Romanes* (of whose priuate dwellings

Vitruvius hath left vs some description) had commonly two *Cloystered* open Courts, one seruing for the *Womens* side, and the other for the *Men*: who yet perchance now adayes would take so much seperation vnkindly. Howsoeuer, by this meanes, the reception of light, into the Bodie of the building, was very prompt, both from without and from within: which we must now supplie either by some open *Forme* of the *Fabrique*, or among gracefull refuges, by *Tarrasing* any *Storie*, which is in danger of darkenesse; or lastly, by *perpendicular lights*, from the *Roofe*: of all other the most naturall, as shalbe shewed anon. For the second difficultie: which is casting of the *Stayre-cases*; That being in it selfe no hard point, but onely as they are incombrances of roome for other vse: (which lights were not.) I am therefore aptly moued heere to speake of them. And first of Offices.

I haue marked a willingnesse, in the *Italian* Artisans, to distribute the *Ky-
chin, Pantrie, Bakehouse, washing Roomes:*
and euen the *Buttrie* likewise, vnder
ground; next aboue the *Foundation*; and
sometimes Leuel with the plaine, or
Floore of the *Cellar*: raysing the first
Ascent into the house *Fifteene Foote* or
more for that Ende, which besides
the benefit of remouing such *Annoyes*
out of sight, and the gayning of so
much more roome aboue, doth also
by eleuation of the *Front*, adde *Maiesie*
to the whole *Aspect*. And with such a
disposition of the principall *Stayre-case*,
which commonly doth deliuer vs, into
the *Plaine* of the second *Storie*, there
may bee wonders done, with a little
roome, whereof I could allcadge braue
Examples abroad; and none more Ar-
tificiall, and Delicious, then a House
built by *Daniele Barbaro Patriarche* of
Aquileia before mentioned, among the
memorable *Commenters* vpon *Vitruuius*.

But the Definition (aboue determind) doth call vs to some consideration of our owne Countrey, where though all the other petty Offices (before rehearsed) may well enough bee so remote, yet by the naturall *Hospitalitie* of *England*, the Buttrie must be more visible; and wee neede perchance for our *Ranges*, a more spacious and luminous *Kitchin*, then the foresaid *Compartition* will beare; with a more competent neereresse likewise to the *Dining Roome*. Or else besides other Inconueniences, perhaps some of the Dishes may straggle by the way; Heere let me note a common defect, that wee haue of a very vsfull *Roome*, called by the *Italians* *Il Tinello*; and familiar, nay almost essentiall, in all their great *Families*. It is a Place properly appointed, to conserue the meate that is taken from the Table; till the *Waiters* eate, which with vs by an olde fashion, is more vnseemely set by, in the meane while.

Now

Now touching the distribution of *Lodging* chambers; I must here take leaue to reprocue a fashion, which I know not how hath preuailed through *Italie*; though without ancient examples, as farre as I can perceiue by *Vitruuius*. The thing I meane, is, that they so cast their *partitions* as when all *Doors* are open, a man may see through the whole *House*; which doth necessariely put an intollerable seruitude vpon all the *Chambers* saue the *Inmost*; where none can arriue, but through the rest; or else the *Walles* must be extream thicke for secret passages And yet this also will not serue the turne, without at least *Three* doores to euery *Roome*: A thing most insufferable, in cold & windie Regions, and euery where noe small weakening to the whole *Worke*; Therefore with vs that want no cooling, I cannot commend the direct opposition of such *Ouertures*, being indecde mecrely grounded

grounded vpon the fond ambition of displaying to a *Stranger* all our *Furniture* at one *Sight*, which therefore is most maintained by them that meane to harbour but a few; whereby they make onely aduantage of the *vanitie*, and seldome proue the *Inconuenience*. There is likewise another defect (as absurdities are seldome solitarie) which will necessarily follow, vpon such a seruile disposing of inward Chambers. That they must bee forced to make as many common great *Roomes*, as there shalbe seuerall *Stories*; which (besides that they are vsually darke, a point hardly auoided, running as they doe, through the middle of the whole *House*) doe likewise deuoure so much Place, that thereby they want other *Galleries*, and *Roomes of Retreate*, which I haue often considered among them (I must confesse) with no small wonder; for I obserue no *Nation* in the World, by Nature more *private*

(old)

and reserved, then the *Italian*, and on the other side, in no *Habitations* lesse *pruacie*; so as there is a kinde of Conflict, betweene their *Dwelling*, and their *Being*: It might heere perchance bee expected, that I should at least describe (which others haue done in *draughts* and *designes*) diuers *Formes* of *Plants* and *Partitions*, and varieties of *Inuentions*; But speculatiue *Writers* (as I am) are not bound, to comprise all particular Cases, within the Latitude of the *Subiect*, which they handle; Generall Lights, and *Directions*, and pointings at some faults, is sufficient. The rest must be committed to the sagacitie of the *Architect*, who will bee often put to diuers ingenious shifts, when hee is to wrestle with scarfitie of *Ground*. As sometimes * to damme one Roome (though of speciall vse) for the benefit and beautie of all the rest; Another while, to make those fairest, which are most in *Sight*, and to leaue the other

(like

The *Italians* call it *una stanza dannata*, as when a Buttrie is cast vnder a stayre-Cafe, or the like.

(like a cunning Painter) in shadow,
cum multis alijs, which it were infinite
 to pursue. I will therefore close this
 Part touching *Compartition*, as cheere-
 fully as I can with a short description
 of a *Feasting* or *entertayning Roome*, after
 the *Aegyptian* manner, who seeme (at
 least till the time of *Vitruuius*) from the
 auncient *Hebrewes* and *Phenicians*
 (whence all knowledge did flow) to
 haue retayned, with other *Sciences*, in a
 high degree, also the *Principles*, and
practise of this magnificent *Art*. For
 as farre as I may coniecture by our Ma-
 sters Text, *lib. 6. cap. 5.* (where as in many
 other Places he hath tortured his *In-
 terpreters*) there could no *Forme*, for
 such a Royall vse, bee comparably
 imagined, like that of the foresaide *Na-
 tion*, which I shall aduenture to ex-
 plaine.

Let vs conceiue a *Floore* or *Area* of
 goodly length, (For example, at least
 of 120 foote) with the *breadth* some-

what more then the halfe of the *Longitude*, whereof the reason shalbe afterwards rendred. About the two longest *sides*, and *Head* of the said *Roome*, shall runne an Order of *Pillars*, which *Palladio* doth suppose *Corinthian* (as I see by his designe) supplying that point out of *Greece*, because we know no *Order*, proper to *Ægypt*. The fourth *side* I will leaue free for the *Entrance*: On the foresaid *Pillars* was laid an *Architraue*, which *Vitruuius* mentioneth alone: *Palladio* addes thereunto (and with reason) both *Freeze* and *Cornice*, ouer which went vp a continued *Wall*, and therein, halfe or three quarter *Pillars*, answering directly, to the Order below, but a fourth Part lesse; and betwene these halfe *Columnnes* aboue, the whole *Roome* was windowed round about.

Now, from the lowest *Pillars* there was layd ouer a *Contignation* or *Floore*, borne vpon the outward *Wall*, and the
Head

Head of the *Columnes* with *Tarrace* and *Pauement*, *Sub dio* (saith our Master) and so indeed hee might safely determine the matter in *Egypt*, where they feare no *Clouds*: Therefore *Palladio* (who leaueth this *Tarrace* vncovered in the middle, and ballised about) did perchance construe him rightly, though therein discording from others: Alwayes we must vnderstand a sufficient breadth of *Pauement*, left between the open part and the *Windowes*, for some delight of *Spectators*, that might looke downe into the *Roome*: The *Latitude* I haue supposed contrary to some former Positions, a little more then the halfe of the length; because the *Pillars* standing at a competent distance from the outmost *Wall*, will by interception of the *Sight*, somewhat in appearance diminish the breadth; In which cases, (as I haue touched once or twice before) *Discretion* may bee more licentious then *Art*. This is the

description of an *Egyptian* roome, for *Feastes* and other *Iollities*. About the *Walles* whereof wee must imagine entire *Satues*, placed below, and illuminated by the descending Light, from the *Tarrace*, as likewise from the *Windows* betweene the halfe *Pillars* aboue: So as this *Roome* had abundant and advantageous *Light*; and besides other garnishing, must needes receiue much *State* by the very heighth of the *Roofe*, that lay ouer two orders of *Columnes*: And so hauing runne through the foure parts of my first generall *Diuision*, namely, *Foundation*, *Walles*, *Appertions*, and *Compartition*; the *House* may now haue leaue to put on his *Hatte*: hauing hitherto beene vncovered it selfe, and consequently vnfit to couer others. Which point though it be the last of this *Art* in execution, yet it is alwayes in *Intention* the first, For who would build but for *Shelter*? Therefore obtayning both the *Place*, and the dig-

dignity of a *Finall cause*, it hath beene diligently handled by diuerse, but by none more learnedly then *Bernardino Baldi* Abbot of *Guaſtalla* (before cited vpon other occasion) who doth fundamentally, and *Mathematically* demonstrate the firmest *Knittings* of the vpper *Timbers*, which make the *Roofe*. But it hath beene rather my *Scope*, in these *Elements* to fetch the ground of all, from *Nature* her selfe, which indeed is the simplest mother of *Art*. Therefore I will now onely deliuer a few of the properest, and (as I may say) of the naturalest considerations, that belong to this remayning *Piece*.

There are two extremities to be auoyded in the *Couer*, or *Roofe*: That it be not too *heavy*, nor too *light*. The first, will suffer a vulgar obiection of pressing too much the vnder-worke. The other, contayneth a more secret inconuenience; for the *Couer* is not onely a bare defence, but likewise a kinde

kinde of *Band* or *Ligature*, to the whole *Fabrique*, and therefore would require some reasonable weight. But of the two extreames, a House *Top-heaue* is the worst. Next there must bee a care of *Equality*, that the *Edifice* be not pressed on the one side more then on the other; and here *Palladio* doth wisely (like a cautelous *Artizan*) that the inward Walles might beare some good share in the burthen, and the outward be the lesse charged.

Thirdly, the *Italians* are very precise in giuing the *Couer* a gracefull *pence* or *slopenesse*, diuiding the whole breadth into *Nine* parts; whereof two shal serue for the eleuation of the highest *Toppe* or *Ridge*, from the lowest. But in this point the quality of the *Region* is considerable: For (as our *Vitruuius* insinuateth) those *Climes* that feare the falling and lying of much *Snow*, ought to provide more inclining *Pentices*: and *Comelineesse* must yeeld to *Necessity*. These

These are the usefullest Cautions which I finde in *Authors*, touching the last *Head* of our *Diuision*, where-with I will conclude the first *Part* of my present *Trauaile*. The second remaineth, concerning *Ornaments* within, or without the *Fabrique*: A Piece not so dry as the meere Contemplation of proportions. And therefore I hope therein, somewhat to refresh both the *Reader*, and my selfe.

L

OF

OF
THE ELEMENTS
OF
ARCHITECTURE.

The II. part.



VERY Mans proper *Mansion House and Home*, being the *Theater* of his *Hospitality*, the *Seate* of *Self-fruition*, the *Comfortablest part* of his owne *Life*, the *Noblest* of his *Sonnes Inheritance*, a kinde of *private Princedome*; Nay, to the *Possessors* thereof, an *Epitomie* of the whole *World*: may well deserue by these *Attributes*, according to the degree of the *Master*, to be *decently and delightfully adorned*. For which end, there are *two Arts* attending on *Architecture*, like

two of her principall *Gentlewomen*, to *dresse* and *trimme* their *Mistresse*; P I C T U R E & S C U L P T U R E: Between whom, before I proceed any further, I wil venture to determine an ancient quarrell about their *Precedency*, with this *Distinction*; that in the garnishing of *Fabriques*, *Sculpture* no doubt must haue the *preheminance*, as being indecde of neerer affinity to *Architecture* it selfe, and consequently the more naturall, and more futable *Ornament*. But on the other side, (to consider these two *Arts* as I shall doe *Philosophically*, and not *Mechanically*) An excellent Piece of *Painting*, is to my iudgement the more admirable *Obiect*, because it comes neere an *Artificiall Miracle*; to make diuerse distinct *Eminences* appeare vpon a *Flat*, by force of *Shadowes*, and yet the *Shadowes* themselues not to appeare: which I conceiue to be the vtermost value and vertue of a *Painter*, and to which very few haue arriued in all *Ages*.

In these two *Arts* (as they are applicable to the *Subiect* which I handle) it shall bee fit first to consider how to *choose* them; and next, how to *dispose* them. To guide vs in the *choyce*, wee haue a *Rule* somewhere (I well remember) in *Pliny*, and it is a prettie obseruation: That they doe mutually helpe to censure one another. For *Picture* is best when it standeth off, as if it were carued; and *Sculpture* is best when it appeareth so *tender*, as if it were *painted*, I meane, when there is such a seeming softnesse in the *Limbes*, as if not a *Chissell* had hewed them out of *Stone*, or other *Materiall*, but a *Pen-sill* had drawne and stroaked them in *Oyle*, which the iudicious *Poet* tooke well to his *Fancy*.

Excudent alij spirantia mollius aera.

But this generalitie, is not sufficient to make a good *chooser*, without a more particular contraction of his Iudgement. Therefore when a Piece of

Art

Art, is set before vs, let the first Caution be, not to aske who made it, least the *Fame* of the *Author* doe Captiuat the *Fancie* of the *Buyer*. For, that excellent *Men* doe alwaies excellently, is a false Conclusion; whereupon I obserue among *Italian* Artizans three notable *Phrases*, which well decipher the degrees of their *Workes*.

They will tell you, that a thing was done (*Con diligenza, Con studio, and Con Amore*; The first, is but a bare and ordinary diligence; The second, is a learned diligence; The third, is much more, euen a louing diligence; They meane not with loue to the *Bespeaker* of the *Worke*, but with a loue and delight in the *Worke* it selfe, vpon some speciall *Fancie* to this, or that *Storie*; And when all these concur (perticularly the last) in an eminent *Author*, Then perchance *Titianus Fecit*, or *id est* will serue the *Turne*, without farther *Inquisition*; Otherwise Artizans haue not

onely their *growthes* and *Perfections*, but likewise their *Vaines* and *Tymes*.

The next Caution must be (to proceede *Logically*) that in Iudging of the *Worke* it selte , wee bee not distracted with too many things atonce ; Therefore first (to beginne with *Picture*) we are to obserue whether it bee well *drawne* , (or as more elegant *Artizans* tearme it) well *Design'd* ; Then whether it be well *Coloured*, which bee the two generall *Heads* ; And each of them hath two principall *Requisites* ; For in well *Designing* , there must bee *Truth* and *Grace* , In well *Colouring*, *Force*, and *Affection* ; All other *Praises* , are but Consequences of these.

Truth (as we Metaphorically take it in this *Art*) is a *Iust* and *Naturall Proportion*, in euery Part of the determined *Figure*. *Grace* is a certaine *free disposition*, in the whole *Draught*, answerable to that vnaffected franknes of *Fashion*, in a liuing *Bodie*, Man or Woman, which

which doth *animate* Beautie where it is,
and *supplie* it, where it is not,

Force consisteth, in the *Roundings & Raisings* of the *Worke*, according as the *Limbes* doe more or lesse require it; So as the *Beholder*, shall spie no *sharpenesse* in the bordering *Lines*; As when Taylors cut out a Sute, which *Italians* doe aptly tearme according to that comparison, *Contorni taglianti*; Nor any *flatnesse* within the *Bodie* of the *Figure*, which how it is done, we must fetch from a higher *Discipline*; For the *Optiques* teach vs. That a *plaine*, will appeare *prominent*, and (as it were) *embossed*, if the Parts farthest from the *Axetree* or middle *Beame* of the *Eye*, shalbe the most *shadowed*. Because in all *Darknesse*, there is a kinde of *Deeopenesse*, But as in the *Arte* of *perswasion*, one of the most *Fundamentall Precepts* is; the *concealement* of *Arte*, Soe here likewise, the *Sight* must be sweetly deceaued, by an insensible passage, from *brighter* colours

lours, to *dimmer*, which *Italian Artizans* calle the *middle Tinctures*; That is, Not as the *whites*, and *yolkes* of *Egges* lie in the *Shell*, with visible distinction; But as when they are *beaten*, and *blended*, in a *Dish*: which is the neereſt comparison, that I can suddenly conceiue.

Laſtly, *Affection* is the *Linely Representation*, of any *paſſion* whatſoeuer, as if the *Figures* ſtood not vpon a *Cloth* or *Boorde*, but as if they were *aſting* vpon a *Stage*; And heere, I muſt remember, in truth with much marueile, a note, which I haue receiued, from excellent *Artizans*, that though *Gladneſſe*, and *Griefe*, be opposites in *Nature*; yet they are ſuch *Neighbours* and *Confiners* in *Arte*, that the leaſt touch of a *Penſill*, will tranſlate a *Crying*, into a *Laughing* Face; which *Instance*, beſides diuers other, doth often reduce vnto my memorie, that Ingenious *Speculation*, of the *Cardinall Cuſanus* extant in his *Workes*, touching the *Coincidence* of extremes,

extremes. And thus much of the *four*
Requisites, and Perfections in Picture.

In *Sculpture* likewise, the *Two* first are
 absolutely necessarie; The *third* im-
 pertinent; For *Solide* Figures neede no
 eleuation, by force of *Lights*, or *sha-*
dowes; Therefore in the Roome of this,
 wee may put (as hath beene before
 touched) a kinde of *Tendernesse*, by the
Italians termed *Morbidezza*, wherein
 the *Chissell*, I must confesse, hath more
 glory then the *Penfill*; that being so
 hard an *Instrument*, and working vpon
 so vnpliant stufte, can yet leaue *Strokes*
 of so gentle appeanance.

The *Fourth*, which is the expressing
 of *Affection* (as farre as it doth depend
 vpon the *Actiuitie*, and *Gesture* of the *Fi-*
gure) is as proper to the *Caruer*, as to
 the *Painter*; though *Colours*, no doubt,
 haue therein the greatest *Power*; where-
 upon, perchance, did first grow with
 vs the *Fashion* of *colouring*, euen *Regall*
Statues, which I must take leaue to call

an English Barbarism: but ha A. 1700. 1701.

Now in these former *Requisites* already rehearsed, it is strange to note, that no *Artizan*, hauing euer beene blamed for excesse in any of the three last; onely *Truth* (which should seeme the most *Innocent*) hath suffered some Obiecti-
on, and all *Ages*, haue yeelded some one or two *Artificers*, so *prodigiously* ex-
quisite, that they haue beene reputed too *Naturall*, in their *Draughts*; which will well appeare, by a famous Passage in *Quintilian*, touching the *Characters* of the ancient *Artizans*, falling now so aptly into my memory, that I must needs translate it, as in truth it may well deserue.

The Place which I intend, is extant in the last *Chapter* saue one of his whole *Worke*, beginning thus in *Latine*.

Primi, quorum quidem opera non vetustatis modo gratia visenda sunt clari Pictores fuisse dicuntur, Polygnotus atque Aglaophon &c. The

The whole *Passage*, in *English*
standeth thus:

THe first *Painters* of name,
whose *Workes* bee considerable
(for any thing more then onely
Antiquitie, are said to haue beene *Polyg-
notus*, and *Aglaophon*; whose bare *Colou-
rings* (hee meanes I thinke in *white* and
blacke) hath euen yet so many followers,
that those rude and first *Elements*, as it
were of that, which within a while,
became an *Arte*, are preferred, before
the greatest *Painters* that haue beene
extant after them, out of a certaine
Competition (as I conceiue it) in point
of *Iudgement*. After these, *Zeuxes* and
Parafius not farre distant in age, both a-
bout the time of the *Peloponessian Warre*,
(for in *Xenophon* wee haue a Dialogue
betweene *Parafius* and *Socrates*) did
adde much to this *Arte*. Of which
the *first* is said, to haue inuented the
due disposition of *Lights* and *Shadewes*;

The second, to haue more subtilly examined, the truth of Lines in the Draught; for Zeuxes did make Limbes, bigger then the life; deeming his Figures, thereby the more stately and Maiesticall; & therein (as some thinke) imitating Homer, whom the stoutest forme doth please, euen in Women. On the other side, Parasius did exactly limit all the Proportions so, as they call him the Law giuer, because in the Images of the Gods and of Heroicall Personages, others haue followed his Paternes like a Decree; But Picture did most flourish, about the daies of Phillip and euen to the Successours of Alexander; yet by sundry habilities; for Protogenes, did excell in Diligence; Pamphilus and Melanthius in due Proportion, Antiphilus in a Franke Facilitie; Theon of Samos, in strength of Fantasie and conceiuing of Passions; Apelles, in Inuention, and Grace, whereof hee doth himselfe most vaunte; Euphranor, deserues admiration

tion, that being in other excellent studies, a principall Man, he was likewise a wondrous Artizan, both in *Painting* and *Sculpture*. The like difference we may obserue among the *Statuaries*; for the workes of *Calon* and *Egesias* were somewhat *stiffe*, like the *Tuscan* manner; Those of *Calamis* not done with so cold stroakes; And *Myron* more tender then the former; a diligent Decency in *Polysletus* aboue others, to whom though the highest prayse bee attributed by the most, yet lest he should goe free from exception, some thinke hee wanted *solemnnesse*; for as he may perchance be layd to haue added a comely dimension to humane shape, somewhat aboue the truth; so on the other side, hee seemed not to haue fully expressed the *Maiesty* of the Gods: Moreouer, hee is sayd not to haue medled wil-lingly with the *grauer* age, as not ad-uenturing beyond *smooth cheekes*: But these vertues that were wanting in *Polysletus*,

lycletus, were supplied by *Phidias* and *Alcmenes*, yet *Phidias* was a better Artizan in the representing of *Gods*, then of *Men*; and in his workes of *Iuorie*, beyond all emulation, euen though hee had left nothing behinde him, but his *Minerua* at *Athens*, or the *Olympian Iupiter* in *Elis*, whose *Beautie* seemes to haue added somewhat, euen to the receiued *Religion*; the *Maiestie* of the *Worke*, as it were equalling the *Deity*. To *Truth*, they affirme *Lysippus* and *Praxiteles*, to haue made the neereſt approach: for *Demetrius* is therein reprehended, as rather exceeding then deficient; hauing beene a greater aymer at *Likenes*, then at *Louelines*.

This is that witty Censure of the ancient Artizans, which *Quintilian* hath left vs, where the last Character of *Demetrius* doth require a little *Philosophicall* examination; How an *Artificer*, whose end is the imitation of *Nature*, can bee too naturall; which likewise

wife in our dayes was either the fault,
or (to speake more gently) the too
much perfection of *Albert Durer*, and
perhaps also of *Michael Angelo da Buon-*
naroti, betweene whom I haue heard
noted by an ingenious *Artizan*, a pre-
ty nice difference, that the *German* did
too much expresse *that which was*; and
the *Italian*, *that which should be*: Which
seuere obseruation of *Nature*, by the
one in her *commonest*, and by the other
in her *absolute*st Formes, must needs
produce in both a kinde of *Rigidity*,
and consequently more *naturalnesse*
then *gracefulnesse*: This is the clee-
rest reason, why some exact *Symme-*
trists haue been blamed, for being too
true, as neere as I can deliuer my con-
ceit. And so much touching the
choyce of *Picture* and *Sculpture*: The
next is, the *application* of both, to the
beautifying of *Fabriques*.

First therefore touching *Picture*,
there doth occurre a very pertinent
doubt,

98 The Elements
doubt, which hath beene passed ouer
too slightly, not onely by some *Men*,
but by some *Nations*; namely, whether
this *Ornament* can wel become the *Out-
side* of houses, wherein the *Germanes* haue
made so little scruple, that their best
Townes are the most painted, as *Augusta*
and *Norembergh*. To determine this
question in a word: It is true, that a
Story well set out with a good *Hand*,
will euery where take a *Iudicious* eye:
But yet withal it is as true, that various
colours on the *Out-walles* of *Buildings*,
haue alwayes in them more *Delight*
then *Dignity*: Therefore I would there
admit no *Paintings* but in *Blacke* and
White, nor euen in that kinde any *Fi-
gures* (if the roome be capable) vnder
Nine or *Ten* foot high, which will re-
quire no ordinary *Artizan*; because the
faults are more *visible* then in small
Designes. In vnfigured *paintings* the no-
blest is, the imitation of *Marbles*, & of
Architecure it selfe, as *Arches*, *Treezes*,
Columnes,

Columnes, and the like.

Now for the *Inside*, heere growes another doubt, whether *Grotesca* (as the *Italians*) or *Antique* worke (as wee call it) should be receiued, against the expresse authoritie of *Vitruuius* himselfe, *lib. 7. cap. 5.* where *Pictura* (saith hee) *Fit eius, quod est, seu potest esse*, excluding by this seuere definition, all *Figures* composed of different *Natures* or *Sexes*; so as a *Syrene* or a *Centaure* had beene intolerable in his eye: But in this wee must take leaue to depart from our *Master*, & the rather because he spake out of his owne *profession*, allowing *Painters* (who haue euer bin as little limited as *Poets*) a lesse scope in their imaginations, euenthen the grauest *Philosophers*, who sometimes do seruie themselves of *Instances*, that haue no *Existence* in *Nature*; as wee see in *Platoes Amphisbæna*, & *Aristotles Hirco-Ceruus*. And (to settle this point) what

liar among the *Romanes* themselves, then the *Picture* and *Statue* of *Terminus*, euen one of their *Deities*? which yet if we well consider, is but a piece of *Grotesca*; I am for these reasons vnwilling to impouerish that *Art*, though I could wish such *medlie* and *mottie* *Designes*, confined onely to the *Ornament* of *Freezes*, and *Borders*, their properest place. As for other *Storied* Workes vpon *Walles*, I doubt our *Clime* bee too yeelding and moist, for such *Garnishment*; therefore leauing it to the *Dwellers* discretion, according to the qualitie of his *Seat*; I will onely adde a caution or two, about the disposing of *Pictures* within.

First, that no *Roome* bee furnished with too many, which in truth were a *Surfet* of *Ornament*, vnlesse they bee *Galleries*, or some peculiar *Repository* for *Rarities* of *Art*.

Next, that the best *Pieces* be placed not where there is the *least*, but where there

there are the *fewest lights*; therefore not onely *Roomes* windowed on both ends, which we call through-lighted; but with two or moe *Windowes* on the same side, are enemies to this *Art*; and sure it is, that no *Painting* can be scene in full *Perfection* but (as all *Nature* is illuminated) by a *single Light*.

Thirdly, that in the *placing* there be some care also taken, how the *Painter* did stand in the *Working*, which an intelligent *Eye*, will easily discover, and that *Posture* is the most naturall; so as *Italian* pieces will appeare best in a *Roome* where the *Windowes* are high; because they are commonly made to a descending *Light*, which of all other doth set off mens *Faces* in their truest Spirit.

Lastly, that they bee as *properly* bestowed for their *quality*, as *fitly* for their *grace*: that is, *chearefull* Paintings in *Feasting* and *Banquetting* *Roomes*; *Grauer Stories* in *Galleries*, *Land-schips*, and

Bosage, and such *Wilde* workes in open *Tarraces*, or in *Summer houses* (as we call them) and the like.

And thus much of *Picture*, which let mee close with this Note; that though my former Discourse may serue perchance for some reasonable *leading* in the choyce of such delights; yet let no man hope by such a *speculative* erudition, to discern the *Masterly* and *Mysterious* touches of *Art*, but an Artizan himselfe; to whom therefore we must leaue the *prerogative*, to censure the manner and handling, as hee himselfe must likewise leaue some points, perchance of no lesse value to others; as for example, whether the *Story* be rightly *represented*, the *Figures* in true *action*, the *Persons* *suted* to their severall qualities, the *affections proper* and *strong*, and such like observations.

Now for *Sculpture*, I must likewise begin with a *Controuersie*, as before (falling into this Place) or let mee rather

ther

ther call it a very meere *Fancie*, strangely taken by *Palladio*, who hauing noted in an old *Arch* or two at *Verona*, some part of the *Materials* already cut in fine *Formes*, and some *unpolished*, doth conclude (according to his *Logicke*) vpon this particular, that the *Auncients* did leaue the outward *Face*, of their *Marbles* or *Free-Stone*, without any *Sculpture*, till they were laid, and *Cimented*, in the bodie of the *Building*; For which likewise hee findeth a reason (as many doe now and then very wittily, euen before the thing it selfe be true) that the *Materialls* being left *rough* were more managable in the *Masons* hand, then if they had beene *smooth*; And that so the *sides* might bee laide together the more exactly; Which Conceit, once taken hee seemes to haue farther imprinted, by marking in certaine Storied *Sculptures*, of oulde time, how precisely the parts and *Lines* of the *Figures* that passe from one Stone

to another, doe meete; which hee thinkes could hardly fall out so right, (forgetting while hespeakes of *ancient* things, the *auncient Diligence*) vnlesse they had beene cut, after the ioyning of the *Materials*, But all these *Inducements*, cannot counteruaile the sole *Inconuenience* of *shaking*, and *Disioynting* the *Commissures* with so many Strokes of the *Chissell*, besides an *Incommodious* Working on *Scaffolds*; especially hauing no testimonie, to confirme it, that I haue yet scene among the records of *Art*; Nay, it is indeede rather true, that they did *square*, and *Carue*, and *Polish*, their *Stone* and *Marble* Workes, euen in the very *Cau*e of the *Quarrie*, before it was hardened by open Aire; But (to leaue disputation) I will set downe a few *Positiue* notes, for the placing of *Sculpture*; because the chusing hath beene handled before.

That first of all, it bee not too *generall* and *abundant*, which would make

a *House*, looke like a *Cabbinet*, & in this point, *morall Philosophie* which tempereth *Fancies*, is the *Superintendent of Art*.

That especially, There bee a due moderation of this Ornament in the first approach; where our Authors doe more commend (I meane about the Principall *Entrance*) a *Dorique*, then a *Corinthian* garnishment; So as if the great *Doore*, be *Arched*, with some braue *Head*, cut in fine *Stone* or *Marble* for the *Key* of the *Arch*, and two *Incumbent* Figures gracefully leaning vpon it, towards one another, as if they meant to conferre; I should thinke this a sufficient entertainment, for the first *Reception*, of any *Iudicious* Sight, which I could wish seconded, with two great standing *Statues* on each side of a paved way that shall leade vp into the *Fabrique*, So as the *Beholder* at the first entrance, may passe his *Eye* betweene them.

That the *Nices*, if they containe *Figures*

gures of white Stone or Marble, bee not coloured in their Concauitie too blacke, For though *Contraria iuxta se posita magis illucescunt* (by an olde Rule) yet it hath beene subtilly, and indeede true-ly noted that our Sight, is not well contented, with those sudden departments, from one extreame, to another; Therefore let them haue, rather a *Duskyish* Tincture, then an absolute blacke.

That *fine* and delicate *Sculptures*, be helped with *Neerenes*, and *Grosse* with *distance*; which was well seene in the olde controuerfie, betweene *Phidias* and *Alcmenes* about the *Statue* of *Venus*: wherein the First did shew discretion, and saue labour, because the *Worke* was to bee viewed at good *Height*, which did drowne the sweete and diligent strokes of his *Aduersarie*: A famous emulation of two principall *Artizans*, celebrated euen by the *Greeke Poets*.

That in the placing of standing *Figures*

gures aloft, wee must set them in a *Posture* somewhat bowing forward; because (saith our Master, *lib. 3. cap. 3.* out of a better *Art* then his owne) the *visuall beame* of our eye, extended to the *Head* of the said *Figures*, being longer then to the *Foot*, must necessarily make that *part* appeare *farther*; so as to reduce it to an erect or vpright *position*, there must be allowed a due advantage of *stooping* towards vs; which *Albert Durer* hath exactly taught, in his fore mentioned *Geometry*. Our *Vitruvius* calleth this affection in the *Eye*, a *resupination* of the *Figure*: For which word (being in truth his owne, for ought I know) wee are almost as much beholding to him, as for the obseruation it selfe: And let thus much summarily suffice, touching the choice and vse of these adorning *Arts*. For to speake of garnishing the *Fabrique* with a *Row* of erected *Statues*, about the *Cornice* of euery *Contignation*

or Story, were discourse more proper for *Athens* or *Rome*, in the time of their true greatnesse, when (as *Plinie* recordeth of his own *Age*) there were neere as many carued *Images*, as liuing *Men*; like a noble contention, euen in point of *Fertility*, betweene *Art* and *Nature*; which passage doth not onely argue an infinite abundance, both of *Artizans* and *Materials*; but likewise of *Magnificent* and *Majesticall* desires, in euery common person of those times; more or lesse according to their *Fortunes*. And true it is indeed that the *Marble Monuments* & *Memories* of well deseruing *Men*, wherewith the very high wayes were strewed on each side was not a bare and transitory entertainment of the *Eye*, or onely a gentle deception of *Time*, to the *Trauailer*: But had also a secret and strong *Influence*, euen into the aduancement of the *Monarchie*, by continuall representation of vertuous examples; so as in
that

that point *A R T* became a piece of *State*.

Now as I have before subordinated *Picture*, and *Sculpture* to *Architecture*, as their Mistresse; so there are certaine inferior *ARTS* likewise subordinate to them: As vnder *Picture*, *Mosaique*; vnder *Sculpture*, *Plastique*; which two, I onely nominate, as the fittest to garnish *Fabriques*.

Mosaique is a kinde of Painting in small *Pebbles*, *Cockles* and *Shells* of sundry colours; and of late dayes likewise with pieces of *Glasse*, figured at pleasure; an *Ornament* in trueth, of much beauty, and long life, but of most vse in *pauements* and *Floorings*.

Plastique is not onely vnder *Sculpture*, but in deed very *Sculpture* it selfe: but with this difference; that the *Plasterer* doth make his Figures by *Addition*, and the *Caruer* by *Substraction*, whereupon *Michael Angelo* was wont to say somewhat pleasantly: That *Sculp-*

ture was nothing but *A purgation of superfluities*. For take away from a piece of wood, or stone, all that is *superfluous*, and the remainder is the intended *Figure*. Of this *Plastique Art*, the chiefe vse with vs is in the gracefull *fretting* of roofes : but the *Italians* applie it, to the *manteling* of *Chimneys*, with great Figures. A cheape piece of *Magnificence*, and as durable almost within doores, as harder *Forms* in the weather. And here though it bee a little excursion, I cannot passe vnremembred a gaine, their manner of disguising the shaftes of *Chimneys* in various fashions, whereof the noblest is the *Pyramidall*: beeing in trueth a piece of polite and ciuill discretion, to conuert euen the *conduits* of soote and smoake, into *Ornaments*; whereof I haue hitherto spoken as farre as may concerne the Bodie of the Building.

Now there are *Ornaments* also without, as *Gardens*, *Fountaines*, *Groues*, *Conserua.*

servatories of rare Beasts, Birds, and Fishes. Of which ignobler kind of Creatures, Wee ought not (saith our greatest * Master among the sonnes of Nature) * childishly to despise the Contemplation; for in all things that are naturall, there is ever something, that is admirable. Of these externall delights, a word or two.

First, I must note a certaine contrarietie betweene building and gardening: For as Fabriques should bee regular, so Gardens should bee irregular, or at least cast into a very wilde Regularitie. To exemplifie my conceit; I haue seene a Garden (for the maner perchance incomparable) into which the first Accessse was a high walke like a Tarrace, from whence might bee taken a generall view of the whole Plott below; but rather in a delightfull confusion, then with any plaine distinction of the pieces. From this the Beholder descending many steps, was afterwards conueyed againe, by severall mountings and va-

* Arist. lib. 1
cap. 5. de
part. Anim.
δὲ μὴ δυσχερὲς
τὴν παιδικὴν
τὴν αἰσθητικὴν
ἐνέργειαν. Ἐν
πᾶσι γὰρ τοῖς
φυσικοῖς ἵκνῃται
ταυτὸν.

lings, to various entertainments of his *sense*, and *sight*: which I shall not neede to describe (for that were poetically) let me onely note this , that euery one of these diuersities , was as if hee had beene *Magically* transported into a new Garden.

But though other *Countries* haue more benefite of Sunne then wee, and thereby more properly tyed to contemplate this delight ; yet haue I seene in our *owne*, a delicate and diligent *curiositie* , surely without *parallel* among foreigne *Nations* : Namely, in the Garden of Sir *Henry Fanshawe* , at his seat in *Ware-Parke*, where I wel remember, hee did so precisely examine the *tinctures*, and *seasons* of his *flowres*, that in their *setting*, the *inwardest* of those which were to come vp at the same time, should be alwayes a little *darker* then the *outmost*, and so serue them for a kinde of gentle *shadow*, like a piece not of *Nature*, but of *Arte* : which men-

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tion (incident to this place) I haue willingly made of his *Name*, for the deare *friendship* that was long betweene vs: though I must confesse, with much wrong to his other *vertues*; which deserue a more solide *memoriall*, then among these vacant obseruations. So much of *Gardens*.

Fountaines are *figured*, or only plaine *Water'd-workes*: Of either of which, I will describe a matchlesse patterne.

The first, done by the famous hand of *Michael Angelo da Buonaroti*, in the figure of a sturdie woman, *washing* and *winding* of linnen clothes; in which Acte, shee *wrings* out the water that made the *Fountain*; which was a gracefull and naturall conceit in the Artificer, implying this rule; That all *designes* of this kind, should be *proper*.

The other doth merite some larger expressiō; There went a long, straight, mossie walke of competent breadth, greene, and soft vnder foot, listd on
both

both sides with an *Aqueduct* of white stone, breast-high, which had a hollow *channell* on the top, where ranne a pretty trickling streame; on the *edge* whereof, were couched very thicke all along, certaine small *pipes* of lead, in little holes; so neatly, that they could not be well perceiued, till by the turning of a cocke, they did sprout ouer interchangeably from side to side, aboue mans height, in forme of *Arches*, without any intersection or meeting aloft, because the pipes were not exactly opposite; so as the *Beholder*, besides that, which was fluent in the *Aqueducts* on both hands in his view, did walke as it were, vnder a continuall *bowre* or *Hemisphere* of water, without any drop falling on him. An *invention* for refreshment, surely farre excelling all the *Alexandrian* delicacies, and *Pneumatiques* of *Hero*.

Groues, and artificiall deuices vnder ground, are of great expence, and little dignitie;

dignitie; which for my part I could with conuerted here into those *Crypteria*, whereof mention is made among the curious prouisions of *Ticho Braghe* the *Danish Ptolemie*, as I may well call him: which were deepe *concaues* in gardens, where the *starres* might be obserued euen at *noone*. For (by the way) to thinke that the brightnesse of the Sunnes body aboue, doth drowne our discerning of the lesser lights, is a popular error; the sole impediment being that lustre, which by *reflection*, doth spread about vs, from the face of the Earth; so as the *caues* before touched, may well conduce, not to a delicious, but to a learned pleasure.

In *Auiaries* of wire, to keepe Birdes of all sorts, the *Italians* (though no wastfull Nation) doe in some places bestow vast expence; including great scope of *ground*, varietie of *bushes*, *trees* of good height, running *waters*, and sometimes a *Stoue* annexed, to con-

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temper

temper the *Aire* in Winter. So as those *Chanteresses*, vnlesse they be such as perhaps delight as much in their wing, as in their voice, may liue long, among so good prouisions and roome, before they know that they are *prisoners*; reducing often to my memory, that conceit of the *Romane Stoicke*, who in comparison of his owne free contemplations, did thinke diuers great and splendent fortunes of his time, little more then commodious captiuities.

Concerning Ponds of pleasure neere the habitation, I will referre my selfe to a graue *Author* of our owne (though more illustrious by his other* worke) namely *Sarisburyensis de Piscinâ*.

* De Nugis
Curial. &c.

And here I will end the second part touching Ornaments, both *within*, and *without* the *Fabrique*.

Now as almost all those, which haue deliuered the *Elements* of *Logicke*, doe vsually conclude, with a Chapter touching *Method*; so I am heere seized with

with a kind of critical spirit, & desirous to shut vp these building *Elements*, with some *Methodical* directiō how to *censure* *Fabriques* already raised: for indeed without some way to contract our *Judgement*, which among so many particulars would bee lost by diffusion; I should thinke it almost harder to be a good *Censurer*, then a good *Architect*: Because the *working* part may be helped with *Deliberation*, but the *Judging* must flow from an *extemporall habite*. Therefore, (not to leaue this last *Piece* without some *Light*) I could wish him that commeth to examine any noble *Work*, first of all to examine himselfe, whether perchance the *sight* of many braue things before (which remaine like impressed formes) haue not made him apt to thinke nothing good, but that which is the *best*; for this *humour* were too sowre. Next, before hee come to settle any imaginable opinion, let him by all meanes seeke to informe him-

selfe precisely, of the *Age* of the *Worke* vpon which hee must passe his *Doo*me. And if hee shall finde the apparent *de*cayes to exceed the proportion of *Time*; then let him conclude without farther inquisition, as an absolute Decree, that either the *Materials* were too *s*light, or the *Seate* is nought. Now, after these premisses, if the *House* be found to beare his *yeares* well, (which is alwayes a token of sound *constitution*) Then let him suddenly runne backwardes, (for the *Method* of *censuring* is contrary to the *Method* of *composing*) from the *Ornaments* (which first allure the *Eye*) to the more essentiall *Members*, till at last hee be able to forme this *Con*clusion, that the *Worke* is *Commodious*, *Firme*, and *Delightfull*; which (as I said in the beginning) are the three capitall *Conditions* required in good *Buildings*, by all *Authors* both *Ancient* and *Mo*derne. And this is, as I may tearme it the most *Scientificall* way of *Censuring*.
There

There are two other which I must not forget. The first in *Georgio Vassari*, before his laborious *Worke* of the liues of *Architects*, which is to passe a running examination ouer the whole *Edifice*, according to the properties of a well *shapen Man*. As whether the *Wals* stand vpright vpon cleane footing and *Foundation*; whether the *Fabrique* bee of a beautifull *Stature*, whether for the *breadth* it appeare well *burnished*, whether the principall *Entrance* be on the middle Line of the *Front* or Face, like our *Mouthes*, whether the *Windowes*, as our *Eyes*, be set in equall number and distance on both sides, whether the *Offices* like the *Veines* in our Bodies, be vlesfully distributed, and so forth. For this *Allegoricall* review may be driuen as farre as any *Wit* will, that is at leasure.

The second way, is in *Vitruuius* himselfe, *lib. 1. cap. 2.* where hee summarily determineth six *Considerations*, which accomplish this whole *Art*.

*Ordinatio.**Dispositio.**Eurythmia.**Symmetria.**Decor, and**Distributio.*

Whereof (in my conceit) wee may spare him the first two; for as farre as I can perceiue, either by his *Interpreters*, or by his own *Text* (which in that very place, where perchance he should be clearest, is of all other the *Cloudiest*) hee meaneth nothing by *Ordination*, but a well setting of the *Modell* or *Scale* of the whole *Worke*. Nor by *Disposition*, more then a neate and full expression of the first *Idea* or *Designement* thereof; which perchance doe more belong to the *Artificer*, then to the *Censurer*. The other foure are enough to condemne, or absolue any *Fabrique* whatsoeuer. Whereof *Eurythmia* is that agreeable *Harmony*, betweene the breadth, length, and height of all the
Roomes

Roomes of the *Fabrique*, which suddenly where it is taketh euery *Beholder*, by the secret power of *Proportion*: wherein let mee onely note this, That though the least error or offence that can be committed against *fight*, is ex-
cesse of height; yet that fault is no where of small importance, because it is the greatest offence against the *Purse*.

Symmetria is the *conueniencie* that runneth betweene the *Parts* and the *Whole*, whereof I haue formerly spoken.

Decor is the keeping of a due *Respect* betweene the *Inhabitant*, and the *Habitation*. Whence *Palladius* did conclude, that the principall *Entrance* was neuer to be regulated by any certaine *Dimensions*; but by the dignity of the *Master*; yet to exceede rather, in the more, then in the lesse, is a marke of *Generosity*, and may alwayes be excused with some noble *Emblema*, or *Inscripti-
on*,

on, as that of the *Conte di Beuilacqua*, ouer his large Gate at *Verona*, where perchance had beene committed a little *Disproportion*.

Patet Ianua: Cor magis.

And heere likewise I must remember our euer memorable Sir *Philip Sidney*, (whose *VVit* was in truth the very rule of *Congruity*) who well knowing that *Basilus* (as hee had painted the *State* of his *Minde*) did rather want some extraordinary *Formes* to entertaine his *Fancie*, then roome for *Courtiers*; was contented to place him in a *Star-like Lodge*; which otherwise in seuerer *Iudgement* of *Art* had beene an incommodious *Figure*.

Distributio is that vsfull *Casting* of all *Roomes* for *Office*, *Entertainment*, or *Pleasure*, which I haue handled before at more length, then any other *Piece*.

These are the *Four* *Heads* which euery man should runne ouer, before
hee

hee passe any determinate *Censure*, vpon the Works that he shal view, where-with I will close this last part, touching *Ornaments*. Against which (mee thinkes) I heare an *Obiection*, euen from some well-meaning man; That these delightfull *Craftes*, may be diuers wayes ill applied in a *Land*. I must confesse indeede, there may bee a *Lasciuious*, and there may be likewise a *superstitious* vse, both of *Picture* and of *Sculpture*: To which possibility of misapplication, not onely these *Semi-liberall Arts* are subiect; but euen the highest perfections, and *endowments* of *Nature*. As *Beautie* in a lightwoman, *Eloquence* in a mutinous Man, *Resolution* in an Assasinate, Prudent *observation* of houres & humours, in a corrupt Courtier, *Sharpenesse* of wit and argument in a seducing Scholler; and the like. Nay, finally let mee aske, what *ART* can be more pernicious, then euen *RELIGION* it selfe, if it selfe be con-

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uerted

uerted into an Instrument of ART :
Therefore, *Ab abuti ad non uti, negatur
consequentia.*

Thus hauing stitched in some sort
together, these *Animaduersiones*, tou-
ching *Architecturæ*, and the *Orna-
ments* thereof; I now feele that *con-
templatiue* spirits are as restlesse as a
Ætine; for doubting with my selfe, (as
all weakenesse is iealous) that I may be
thought to haue spent my poore ob-
seruation abroad, about nothing but
Stone and Timber, and such Rubbage;
I am thereby led into an immodestie
of proclaiming another Worke, which
I haue long deuoted to the seruice of
my *Countrie*: Namely, *A Philosophi-
call Suruey of Education*, which is indeed,
a second *Building*, or repairing of Na-
ture, and, as I may tearme it, a kinde of
Morall Architecturæ; whereof such
Notes as I haue taken in my foreigne
trans-

transcursions or abodes, I hope to vter without publike offence, though still with the freedome of a plaine *Kentish* man. In the meane while I haue let these other *Gleanings* flie abroad, like the Bird out of the *Arke*, to discouer what footing may bee, for that which shall follow.

FINIS.

Errata.

Pag. 6. lin. 8. for as, read is. Pag. 48. lin. 2. for cuncatim, read cuncatim. Pag. 77. lin. 6. for (wo, read (who. Pag. 80. lin. 9. for wisely, read with. Pag. 88. lin. 19. omitted in the Margin the verses following, touching the coincidence of extreame affections; represented by Homer in the person of Hectors wife; as Painters and Poets haue alwaies had a kind of congeniality.

ΙΑΙΑΔ, ζ.

Ὡς εἰπὼν ἀλόχῳ φίλῳ ἐν χέρσιν ἵστανε,
Παῖδ' ἰὼν, ἥδ' ὄρα μιν καὶ δαΐδιζατο κόλῳ
Δακρυόεν γαλάζα. ---- That is,

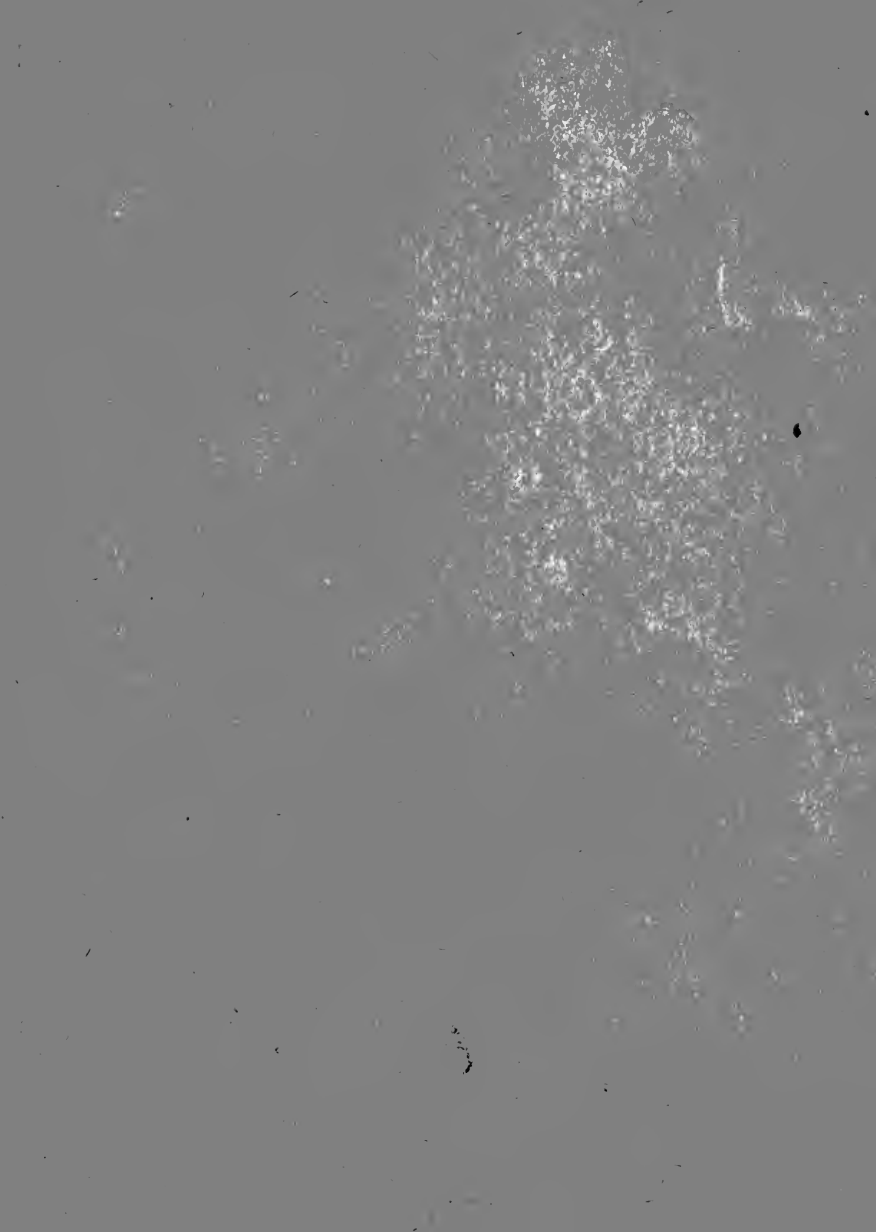
Shee tooke her sonne into her armes, weepingly laughing.

I have been thinking of you
 and of the many things
 which have happened
 since we last met.
 I hope you are well
 and happy. I have been
 very busy lately, but
 I have managed to find
 some time to write to
 you. I have been thinking
 of you very much, and
 of the many things
 which have happened
 since we last met.
 I hope you are well
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 of you very much, and
 of the many things
 which have happened
 since we last met.

FIN

James and Deborah's wedding took place on the 11th of June, 1888, at the residence of the bride's father, Mr. J. H. Smith, in the city of New York. The ceremony was performed by the Rev. Mr. J. H. Smith, assisted by Mr. J. H. Smith, Jr. The bride was Miss Mary Smith, daughter of Mr. J. H. Smith, and the groom was Mr. J. H. Smith, Jr. The wedding party consisted of the bride, groom, bridesmaids, best man, and witnesses. The reception was held at the residence of the bride's father, Mr. J. H. Smith, and the celebration continued until midnight.

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